



Product overview:

RELAY / iNELS / iNELS RF Control / LOGUS⁹⁰



PRODUCT OVERVIEW



ELKO EP COMPANY PRESENTATION

COMPLEX SOLUTIONS FROM A SINGLE MANUFACTURER!

The company ELKO EP, a Czech manufacturer of modular electronic devices, has been your partner in wired and wireless solutions for over two decades. Our product range has undergone dynamic development, from simple manufacture of modular devices to developing and implementing wireless solutions and sophisticated wired intelligent systems including multimedia control throughout your entire home.

In the past year, we also achieved great progress in getting our systems to communicate with each other, which brings you unlimited possibilities and variations of electrical installations custom-made for your home. A major advantage and founding pillar of our work is our own development capacities and facilities, enabling us to have immediate interaction between you - our customers - and ourselves. We flexibly fine-tune all our products to satisfy not only strict standards, but especially their users in everyday life.

Right now, we are working intensively on interconnecting all of our systems, and we are designing wide-ranging solutions for both new home constructions and existing wiring schemes. We are all accus-



tomed to different standards, and everybody has the chance to raise theirs a few notches higher. We also feature our rich portfolio of control elements, including the award-winning wireless device RF Touch, elegant switches and outlets in a unified and timeless design, and the option of control through security keypads, notebooks, smart phones or iPADS. This is all possible, and at ELKO EP, it has now become a reality.



RELAYS - Modular electronic devices

www.elkoep.com

A wide range of electronic modular devices, which bring new possibilities to home and office control, monitoring and security, as well as to industrial process control: time relays, installation contactors, staircase automatic switches, time switches clocks, dimmers, thermostats, power supplies units, control and signalling devices, GSM gates, etc.



iNELS - Intelligent Electrical Installation System

www.inels.com

iNELS will transform your house into a timeless intelligent household. It will take charge of heating and air-conditioning regulation, lighting control and home appliance switching, while also providing perfect security for your home. Enjoy controlling your entire house via a TV screen thanks to iNELS Multimedia (iMM) or use the elegant iNELS Touch Panel (iTP).



iNELS RF Control - Wireless control

www.elkoep.com

A unique wireless control system providing you perfect control over your home! The RF Control system enables you to control functions such as heating, lighting, electrical appliances and window shutters, all with a single touch. No demolition work, fast and easy installation, exclusive design of wireless wall switch buttons and other components.



LOGUS⁹⁰ - Home switches and sockets

www.elkoep.com

We offer you exclusive switches, sockets and accessories in a standard plastic or metallic finish. However, there are also charming luxury frames from purely natural materials such as genuine wood, metal, granite or hardened glass. Be exceptional!

ONE SYSTEM FOR ALL!



iNELS - SMART HOME SOLUTIONS

We have combined the iNELS RF Control wireless solution and the bus intelligent electrical installation under one umbrella term: iNELS SMART HOME SOLUTIONS. One logo – two varying solutions. They can also be successfully combined.

The variability and flexibility of the wireless solution for existing households wanting to elevate their home use to a modern living standard. Installation is easy and fast, installation elements can always be added, and controllers can be placed where you want them.

The intelligent iNELS system runs your entire home just the way you

want it. You have complete control over heating, air-conditioning, window dimmers, lighting regulation, switching of appliances, and all of this perfectly secured and monitored centrally.

In practice, we see how each of us have so many different views and demands for versatility and variability. We do not want to limit anyone's perception, or make customers choose from two outlined options. No either /or. We have one solution. One - that is custom made to suit everyone.

iNELS SMART HOME SOLUTIONS

We present you iNELS smart home solutions - it is a new brand of electrical solutions, including wireless and bus wiring system. With regard to the new possibility of combination these two solutions, we decided to create a brand that captures the dynamism, versatility, versatility, flexibility and also intelligence.



CHOOSE FROM 20 REASONS THE ONES THAT MAKE YOUR LIFE EASIER!



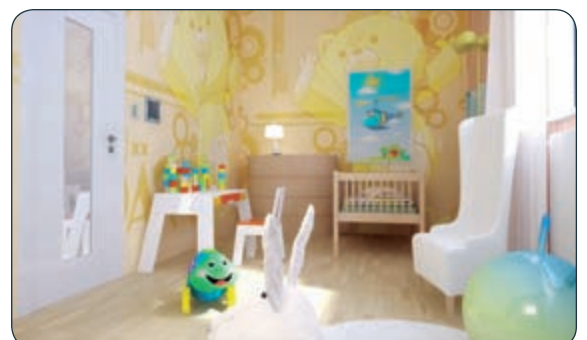
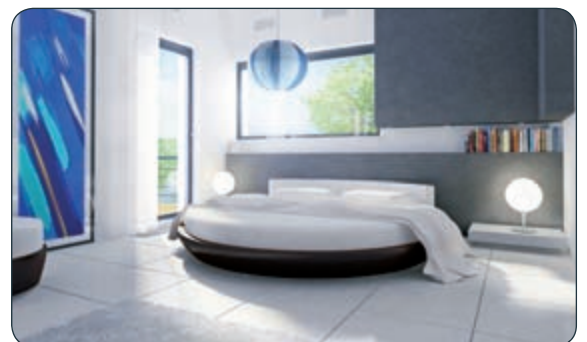
10 REASONS TO OPT FOR BUS SYSTEM

- 1) ideal solution for new buildings
- 2) two-wire bus
- 3) bus once stretched you can always expand
- 4) security system, combined with detectors
- 5) remote control (PC, mobile phone applications)
- 6) imitation of presence
- 7) regulation depending on the weather
- 8) ecology and energy saving
- 9) modern trends in controlling
- 10) media under control (can also be controlled via TV)



10 REASONS TO OPT FOR WIRELESS SYSTEM

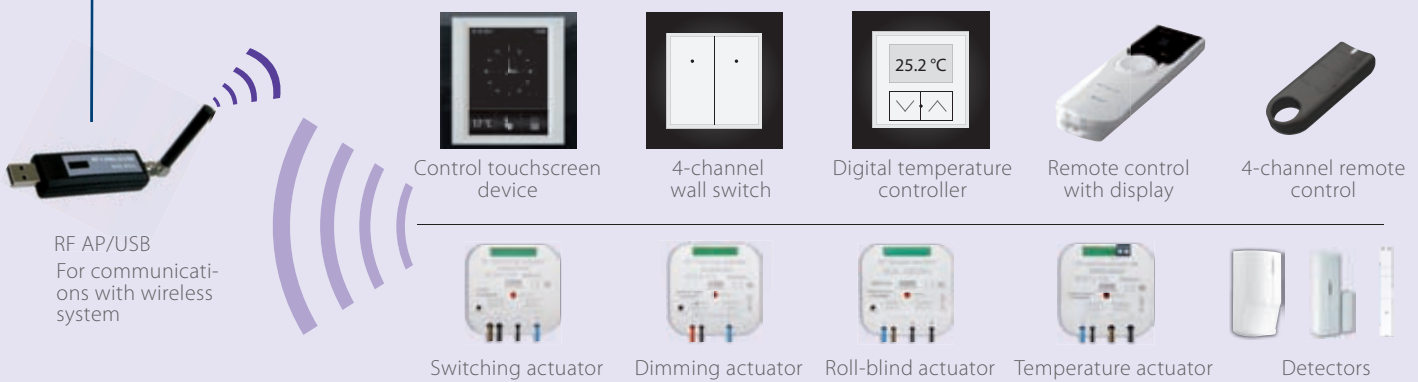
- 1) installation without breaking the walls
- 2) could be moved any time - elements are not kept by wire but by the waves
- 3) any time expandable - actuators and drivers can increase exponentially
- 4) appropriate to existing installations
- 5) variable control - switch, keychain, remote control, touchscreen unit
- 6) centralized control - thanks to RF Touch
- 7) planning for the week ahead
- 8) combination with detectors - motion, smoke, opening windows/doors
- 9) controlling actuators as a group with a single touch
- 10) luxurious design



SYSTEM INFRASTRUCTURE



BUS SYSTEM



WIRELESS SYSTEM

YOUR HOME IS UNDER CONTROL

MULTIFUNCTIONAL GSM COMMUNICATOR

The GSM communicator can be used in three ways for remote switching of heating, lights, barriers, gates and ascertaining the status of the RF Control actuator:

- independently
- with RF Control actuators
- with the RF Touch unit



RFGSM-220M

RF TOUCH SCREEN CONTROL UNIT

Is a touch screen control unit of the iNELS RF Control system, which keeps your home under control. It offers complete control over heating, switching electrical appliances and devices, dimming lights or controlling blinds. All this comes with the option of setting a weekly program, all automatically and wirelessly. Controlling is performed via the touch display in luxury design in the LOGUS⁹⁰ frame.



DIMMING ACTUATOR

Setting light functions ex.: dimming lights for creating atmosphere for watching TV, smooth run up or run down of light. Quick solution - dimming socket RFSC-11B, RFSC-61B.



RFDSC-11 RFDA-11B
RFDSC-71 RFDA-71B

ANALOG ACTUATOR

In combination with dimmable control gear for dimming fluorescent lights and setting light scenes, 1-10 V. In combination with thermostat for heating regulation, 0 - 10 V.



RFDAC-71B

DIMMING ACTUATOR

Serves for dimming an LED, LED strip and RGB. LED strip with power supply 12-24V DC. Enables setting of colored light scenes.



RFDA-73M / RGB

WIRELESS DETECTORS

OASiS detectors can also be used for automatic control, which react to motion, opening of a window or door or drop in temperature (ex. motion sensor switches on the light, window detector blocks heating or air-conditioning).



JA-80P

WIRELESS ACTUATOR WITH TEMPERATURE SENSOR

It measures the temperature by internal or external sensor and switches a heater according to a set program or manually. In the LOGUS⁹⁰ design.



RFSTI-11/G

SHUTTER ACTUATOR

Driver for controlling blinds, awnings, shutters, garage doors, etc.



RFJA-12B

WIRELESS SWITCHES

They control switching and dimming lights, blinds, shutters, electrical appliances, etc. Their flat base enables you to place it anywhere - on glass, the wall, a beam, cladding, etc. In the LOGUS⁹⁰ design.



RFWB-20/G
RFWB-40/G



KEYCHAIN

Controlling garage doors, awnings, shutters and lights with the help of transmitter - keychain



RF KEY



TEMPERATURE SENSOR

It scans the current temperature at the installation site (on the balcony, terrace) and the values are displayed on the RF Touch display.



RFTI-10B



ELECTRICITY METER

Combination of remotely controlled socket and electricity meter.



RFPM-1



DIGITAL TEMPERATURE CONTROLLER

Digital temperature controller that you can use to simply and quickly adjust room temperature even outside the set program.



RFTC-10/G



UNIVERSAL TRANSMITTING MODULE

Universal module, which can make any switch wireless.



RFIM-20B
RFIM-40B



SWITCHING TEMP. SENSOR

It measures the temperature by internal or external sensor, then sends temp. information to RF Touch, which gives the signal to switch on heating.



RFSTI-11B



SWITCHING ACTUATOR

Actuators serve for switching appliances, sockets and electrical devices. Option of controlling by all transmitters. -RFSAI-61B for external control with a classic button. Quick solution - switched socket RFSC-11, RFSC-61.



RFSAI-61B



RFSAI-61B



RFSC-61



IP65
RFUS-61

REMOTE RF CONTROLLER WITH DISPLAY

Combine remote control RF Pilot with RF Touch touch screen unit for maximum use of functions of the RF Control system.



RF PILOT

TRANSMITTERS

are elements of the iNELS RF Control system that are used to control receivers. Thanks to the battery power supply, you can place them anywhere.

RF Touch - Wireless touch unit



RF Touch-W
RF Touch-B

USB - Virtual Touch



RF PILOT

Remote control with display



RF KEY/B
RF KEY/W

Keychains



RFWB-20/G
RFWB-40/G

Wireless switches



RFCT-10/G

Digital temperature regulator



RFIM-20B
RFIM-40B

Universal transmitting module



RFSG-1M

Universal transmitting module



RFTI-10B

Temperature sensor



RFRP-20

Signal repeater in wireless socket box



JA-80P
JA-81M
JA-82M

Wireless detectors OASIS

RECEIVERS

are elements of the iNELS RF Control system. They control the required electrical device or appliance with the help of signal from the transmitter or according to the program set in the RF Touch unit.



Shutter receivers

RFJA-12B/230V RFJA-12B/24VDC

Dimming receivers



into a socket

RFDA-11B
RFDA-71B

RFDSC-11
RFDSC-71



RFDEL-71B



3M
RFDA-73M/RGB

Switching receivers into a wiring box



into socket

RFSAI-61B

RFSA-11B/61B

RFSA-62B

RFSC-11

RFSC-61

into switchboard



for harsh environments

RFSA-61M

RFSA-66M

IP65

IP65

RFUS-11

RFUS-61



Temperature sensors with switch and manual control



Analog receivers

0-10V - drive regulation
1-10V - dimming fluorescent tubes



RFPM-1

Electricity meter

TRANSMITTERS

CONTROLLERS

WIRELESS CENTRAL UNIT

WIRELESS PUSH-BUTTONS

KEY-CHAIN

WIRELESS PUSH-BUTTONS

DIGITAL TEMPERATURE REGULATOR



Technical parameters	RF TOUCH/B	RF TOUCH/W	RF PILOT	RF-KEY/B	RF-KEY/W	RFWB-20/G	RFWB-40/G	RFTC-10G	
Number of channels	30	30	40	4		2	4	4	
Power supply	230 V AC	85 - 230 V	2 x bat. 1.5V AAA / R03	3 V battery CR 2032		3 V battery CR 2032		2 x 1.5V battery AAA	
Mounting	in box	on surfaces	remote control	remote control		for mounting on surfaces		for mounting on surfaces	
Design	LOGUS ⁹⁰	LOGUS ⁹⁰	LOGUS ⁹⁰	keychain		LOGUS ⁹⁰		LOGUS ⁹⁰	
	RF Control wireless system touch control unit allows intelligent control of RF units. RF Touch can be programmed together with actuators designated as OASIS & Touch Compatible		Wireless Remote Controller RF Pilot with elegant design and OLED display. RF Pilot can be programmed for up to 40 RF Control actuators. Design: remote RF controller with RF Pilot/W display (white cover), EAN code remote RF controller with RF Pilot/A display (anthracite cover)		Portable transmitter, which serves for controlling of units of system RF Control. Wireless transmitters are operating on 868 MHz frequency. Battery life is cca 5 years according to frequency of using. Design: white,black.		Easy and fast installation on any surface (glass, wood, wall...). Transmitters can simultaneously operate unlimited number of assigned actuators, which are in the range of RF signal. Transmission frequency 868 MHz. Battery life is cca 5 year. Range in free area is up to 200m.		Serves for temporary temperature corrections (+/- 3°C) during a pre-set mode in unit RFT with the possibility of day/night mode. temperature is changed by buttons V / Λ and is visible on backlighted LCD display.

CONVERTERS

UNIVERSAL TRANSMITTER MODULE

UNIVERSAL TRANSMITTER MODULE

WIRELESS TEMPERATURE SENSOR

MULTIFUNCTION GSM COMMUNICATOR

CONVERTER ETHERNET TO RF SIGNAL ELAN-RF-003



Technical parameters	RFIM-20B	RFIM-40B	RFSG-1M	RFTI-10B	RFGSM-220	ELAN-RF-003
Number of channels	2	4	1	-	4	4
Power supply	1x3Vbat.CR2477	2x3Vbat.CR2032	110 - 230 V AC / 50 - 60 Hz	2 x 1.5V battery AAA	11-30V DC	2 x 1.5V battery AAA
Range in open space	up to 200 m		up to 160 m	up to 160 m	up to 150 m	up to 100m
Design	MINI, in an installation box		1 - module	MINI, in an installation box	3 - module	installation box
	Practical utilization in system RF Control for connection of already existing devices: house push-button or button, bell, etc. Proportions enable mounting into installation box (e.g. KU-68), directly under a push-button - possibility of connection with receivers RF Control.		Transmitting module serves for wireless transmission of command/technology, its biggest advantage is 230V supplying, thanks which battery lasts longer during often signal transmissions.	Serves as a thermo-scanning for RF Touch unit. Contains an internal sensor for measuring of ambient temperature and also terminal for connection with external sensor for measuring in outdoor areas, floors...etc	GSM communicator can be used in three ways: a) independently – reacts to SMS or ringing phone once, where it switches an internal relay or reacts to 1 of 4 inputs b) with RF Control actuators – the switch command is sent to a switching actuator with in range, which then switches (ex. heating) c) with the RF Touch unit – where it is possible to request information by mobile phone on the actuator status, and switch the actuator based on this	Converter Elan-RF-003 converts commands from LAN/TCP/IP network to an RF signal for controlling RF-actuator, enables two-way communication between the RF and Ethernet systems. Programming the ELAN-RF-003 is performed: 1) via iMM server 2) via SW virtual touch for PC 3) by pressing the PROG button on the front panel of the device 4) via web interface

TRANSMITTERS

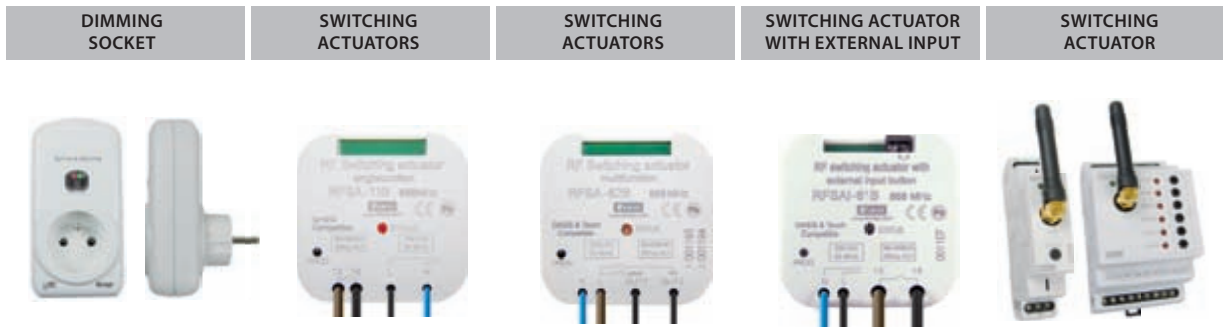
TRANSMITTERS				DETECTORS	
USB FLASH DRIVES		REPEATER	ELECTRICITY METER	DETECTORS	
NEWS!		NEWS!		NEWS!	
Technical parameters	RFAP/USB	RF iNELS/USB	RFRP-20	RFPM-1	Detectors
Number of contacts	-		4	1 x switches AgNi	
Power supply	-		230 - 250V / 50-60Hz	AC 230V AC / 50 Hz (BRITISH - 240V AC)	JA-80P Infra-passive movement sensor JA-80P surveys space and indicates any movement of persons.
Range in open space	100 m		up to 200 m	up to 150 m	JA-81M The product is used to detect door or window opening, etc. The detector is also designed to detect manipulation with an external shutters equipped with a ratchet sensor of shutter movement.
Design	USB		through socket	through socket	JA-82M The product is designed to detect window (door) opening. An "invisible" magnetic sensor is mounted into plastic or wooden window frames and is completely inconspicuous.
	RFAP/USB - forms a communication interface between units of the RF Control system and a PC with the Windows operating system or Linux with USB interface RF iNELS/USB - flash drive which forms a communication interface and gateway between units, elements		The radio frequency signal repeater extends the range between the transmitter and the receiver by 200 meters. Serves to transmit signal between up to 20 units Produced in three designs of sockets and plugs (more informations page 11).	RFPM - the devices sends information to RF Touch on power consumption, serving in essence as a combination of remote controlled socket and electricity meter RFPM-1 measures the following data: voltage, current, power, network frequency Produced in three designs of sockets and plugs (more informations page 11).	

RECEIVERS

ACTUATORS		РОЛЛЕТНЫЕ		DIMMING		УНИВЕРСАЛЬНЫЙ ДИММЕР		RGB ДИММЕР
SHUTTER ACTUATORS		DIMMING SOCKET		DIMMING ACTUATORS		УНИВЕРСАЛЬНЫЙ ДИММЕР		RGB ДИММЕР
NEWS!		NEWS!		NEWS!		NEWS!		NEWS!
Technical parameters	RFJA-12B/230	RFJA-12B/24V	RFDSC-11	RFDSC-71	RFDA-11B	RFDA-71B	RFDEL-71B	RFDA-73M/RGB
Number of contacts	2 x Switches 8A	contactless	contactless, 2 x MOSFET	-	-	-	contactless, 2 x MOSFET	4
Power supply	230V AC	Switches	230 V AC / 50 Hz	230V AC	230V AC / 250VA	230 V AC / 50 Hz	12-24V DC stabilized	
Rated current:	8 A / AC1	12- 24VDC	-	-	-	-	-	3x5 A
Load	2000VA / AC1	-	R, L, C, LED, ESL 300 W*	R, L, C max. 250 W	R, L, C max. 250 W	R, L, C, LED, ESL max. 160 W*	LED, RGB LED 60W = 8m strip	
* capacity for power factor $\cos \varphi = 1$ The power factor of dimmable LEDs and ESL bulbs ranges from $\cos \varphi = 0.95$ up to 0.4. An approximate value of maximum load may be obtained by multiplying the load capacity of the dimmer by the power factor of the connected light source.	RFJA-12B/230V: switching of electric engines 230 VAC, which are operated in two- ways and have an inbuilt protective limit switch. RFJA-12B/230V DC: controlling of in-between window shutters (electric engines 12-24 V DC) with an inbuilt limit switch.		The dimming socket offers a simple solution to dimming lamps and lights plugged into the socket, this socket is simply positioned between the existing outlet and the light RFDSC-11: Single-dimming socket. Function - Touch dimmer. 230V AC. RFDSC-71: Multi-dimming socket. 6 light function, ON / OFF. 230V AC / 250 VA.	Serves for light dimming and creating light scenes (4 preset light scenes). RFDA-11B: 1-function - button dimmer. RFDA-71B: multifunction - 6 lighting functions, function ON/OFF, possibility to set a slight start/finish of the light (2s...30min).	Serves for controlling light intensity of these light: R, L, C, LED, ESL / 230V. ON/OFF. Option of controlling existing external button and RF transmitter	Used to dim LEDs, an LED strip and RGB LED strip with power supply 12-24V DC. control is performed with RF Control wireless transmitters or signal 0-10V/ 1-10V, or iNELS DAC converter iNELS. the supply voltage to the equipment and the LED strip must be the same. If the RFDA-73M/RGB is supplied by 12V DC, LED strip / source should also be supplied by 12V DC. The same applies for a supply voltage of 24V DC.		

RECEIVERS

SWITCHING ACTUATORS



NEWS!

NEWS!

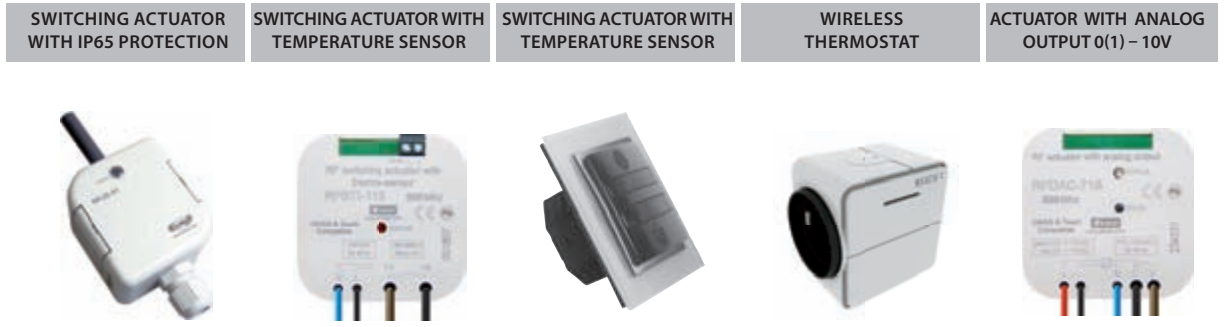
Technical parameters	RFSC-11	RFSC-71	RFSA-11B	RFSA-61B	RFSA-62B	RFSAI-61B	RFSA-61M	RFSA-66M																																		
Number of contacts	1x Switches AgSnO ₂		1x Switches AgSnO ₂		2x Switches AgSnO ₂	1x Switches AgSnO ₂	1x Switches AgSnO ₂	3x switch.AgSnO ₂ 3x switch.AgSnO ₂																																		
Power supply	230 V AC / 50 - 60 Hz		230 V AC / 50 - 60 Hz		230 V AC / 50 - 60 Hz	230 V AC / 50 - 60 Hz	110 - 230 V AC / 50 - 60 Hz																																			
Rated current:	16 A / AC1		16 A / AC1		8 A / AC1	16 A / AC1	16 A / AC1	8 A / AC1																																		
Load	4000 VA / AC1, 384 W / DC		4000 VA / AC1, 384 W / DC		2000 VA / AC1	4000 VA / AC1, 384 W / DC	4000VA / AC1, 384W / DC	2000VA / AC1																																		
	<p>this is a quick solution for wireless control of appliances into a socket, when the switching socket is connected between the existing socket and controlled appliance. RFSC-11: singlefunction. SWITCH ON/SWITCH OFF. RFSC-61: multifunction - 6 functions</p>		<p>RF switching actuators serve for controlling of appliances, lights, heating, garage doors, socket-outlets etc.</p> <table border="1"> <thead> <tr> <th rowspan="2">Switching actuators</th> <th colspan="2">Output</th> <th colspan="2">Rated current</th> <th colspan="2">Number of functions</th> </tr> <tr> <th>1 channel</th> <th>2 channel</th> <th>16A</th> <th>8A</th> <th>1</th> <th>6</th> </tr> </thead> <tbody> <tr> <td>RFSA-11B</td> <td>•</td> <td></td> <td>•</td> <td></td> <td>•</td> <td></td> </tr> <tr> <td>RFSA-61B</td> <td>•</td> <td></td> <td>•</td> <td></td> <td></td> <td>•</td> </tr> <tr> <td>RFSA-62B</td> <td></td> <td>•</td> <td></td> <td>•</td> <td></td> <td>•</td> </tr> </tbody> </table>			Switching actuators	Output		Rated current		Number of functions		1 channel	2 channel	16A	8A	1	6	RFSA-11B	•		•		•		RFSA-61B	•		•			•	RFSA-62B		•		•		•	<p>by installing the actuator under the existing button, we achieve further lighting control options when using RF Control wireless transmitters or the RF Touch touch screen unit. It is thus possible to control the actuator by an existing button, but also by a wireless controller</p>		<p>RFSA-61M: 1-channel switching actuator in 1-module version with internal or external antenna. RFSA-66M: 6-channel switching actuator in 3-module version.</p>
Switching actuators	Output		Rated current		Number of functions																																					
	1 channel	2 channel	16A	8A	1	6																																				
RFSA-11B	•		•		•																																					
RFSA-61B	•		•			•																																				
RFSA-62B		•		•		•																																				

ACTUATORS

SWITCHING

THERMO

ANALOG



NEWS!

NEWS!

NEWS!

Technical parameters	RFUS-11	RFUS-61	RFSTI-11B	RFSTI-11/G	RFATV-1	RFDAC-71B
Number of contacts	1 x переключ. AgSnO ₂		1x SwitchesAgSnO ₂	1x SwitchesAgSnO ₂	-	1x AgSnO ₂ , switch.
Power supply	230V AC / 50 - 60 Hz		230 V AC / 50 - 60 Hz	230 V AC / 50 - 60 Hz	2 x 1.5V батарея AA	110 - 230 V AC / 50 - 60 Hz
Rated current	12 A / AC1		16 A / AC1	8 A / AC1	-	16A / AC1
Load	3000 VA / AC1, 384 W / DC		4000 VA / AC1, 384 W / DC	2000VA / AC1; 240W / DC1	коробка	4000VA / AC1
	<p>RFUS-11: single-function design - switch on, switch off RFUS-61: multifunction design - button switch on/off, impulse relays, delayed return, delayed start programming and manual control ON/OFF is performed using the Prog button, placement inside cabinet.</p>	<p>Used for temperature measurement and, at the same time, for switching of the heating circuit RFSTI-11B: - installation box design (KU-68) - LED indicator of the device status on the front panel</p>	<p>RFSTI-11/G: - LOGUS[®] design with manual control by buttons on the front panel - LED indicator of the switch status on the front panel - ON - red LED, OFF - blue LED - an in-built sensor, terminals for connection of external sensor!</p>	<p>Measures temperature and sends its value to RF Touch in 5-minute intervals RF Touch assess the sent temperature and by a set program, opens or close the radiator (heater) valve. Has a built-in internal sensor</p>	<p>RF receiver: an actuator with analog output 0(1)-10V an 1x switching 16A contact. 7 functions. 230V AC. The actuator is intended for continuous regulation of devices controlled with analog connected voltage 0(1) - 10V</p>	

ACCESSORIES						RF SETS
THERMOSTAT DIMMABLE CONTROL GEAR		INTERNAL ANTENNA EXTERNAL ANTENNA	DESIGNS OF SOCKETS AND PLUGS			TRANSMITTER AND RECEIVER COMBINATIONS
ALPHA AA	DIML	AN-I	AN-E	FRENCH	SCHUKO	BRITISH
<p>Thermo valve ALPHA AA is used to regulate heating in the RF Control and iNELS systems</p> <ul style="list-style-type: none"> - ALPHA AA 0-10V in combination with DAC units - ALPHA AA 230V and ALPHA AA 24V with any system switching actuator 		<p>For multifunction switching actuator RFSA-61M, RFSA-66M, RFGSM, RF-ELAN-003, RFDA-73M/RGB and transmitter module RFSG-1M into plastic switchboard. Internal antenna is included in the standard package of switching actuator. Sensitivity 1 dB.</p>		<p>CZ, SK, PL, FR</p>	<p>HU, DE, RU, UA, AT, RO</p>	<p>GB</p>
<p>The thermo electric valve ALPHA AA is intended for zone or individual regulation with high differential pressures for all thermostatic valves. regulating thermostatic valves of floor, radiator and convector heating.</p>		<p>For multifunction switching actuator RFSA-61M, RFSA-66M, RFGSM, RF-ELAN-003, RFDA-73M/RGB and transmitter module RFSG-1M for mounting into metal switchboard. External antenna AN-E is delivered on request only. Sensitivity 5 dB cable length 3m</p>				
<p>RF SETs are a combination of units- actuators and controllers. RF SETs are price-advantageous when compared with prices of individual units.</p> <p>RF SETs are available in basic and multifunction versions. It is available as combination of a transmitter and receiver of your choice, or as a complete set of switching and dimming actuators with controllers.</p> <p>Basic sets, marked RFSET-xxxx-Z1, are designed to satisfy most common requirements of users. Receivers are equipped by most widely used user functions. Basic RF sets are combined with receivers: RFSA-11B, RFDA-11B, RFJA-12B/230V, RFDSC-11.</p>						

RADIO FREQUENCY SIGNAL PENETRATION THROUGH VARIOUS CONSTRUCTION MATERIALS

 60-90%	 80-95%	 20-60%	 0-10%	 80-90%
brick walls	wooden structures with plaster boards	reinforced concrete	metal partitions	common glass

INSTRUCTIONS FOR USE

For correct and faultless functioning and safe operation of the product, it is necessary to observe the following principles:

- Do not install in outdoor or wet spaces
- During maximum load, sufficient cooling must be ensured for RFDA-11B, RFDA-71B and RFDL-71B
- Do not install RF components into metal switchboard and steel lighting panels (the metal is an obstacle to the RF signal)
- Keep in mind that the radio signal range for RF installations depends on the building structure, materials used and the manner of unit location in the area.
- Actuator protection: Actuators are equipped with thermal protection which disconnects output when the temperature inside the device exceeds a certain level.

TYPES OF LIGHT SOURCES

type of source	symbol	description
R resistive	 HAL 230 V	ordinary light bulb, halogen lamp
L inductive	 HAL. 12-24 V	coiled transformer for low-voltage halogen lamps
C capacitive		electronic transformer for low-voltage halogen lamps
LED		LED lamps and LED light sources, 230 V
ESL		dimable energy-saving fluorescent tubes

SYSTEM FUNCTIONS

Remote access

- by Internet, PDA, or SMS text messages

Regulation of all types of heating and cooling systems

- in each room (circuit) independently, regulation of temperature in dependence on outside weather

Control of external shutters

- garage door, sliding gates - automatically according to weather

Security system

- monitoring of burglar motion
- prevention of fire emergency due to detection of gas or smoke

Simulation of presence

- automatic control of shutters dependent on time

Light control

- lighting scenes dependent on ambient light intensity, on motion, or on time

Central control

- selected lights, appliances, sockets circuits can be switched OFF by touch of a button

Control of appliances

- you can control any appliance connected to iNELS by time/ temperature / light intensity or other preset modes

CONTROLLERS FOR INTERIORS

Wall group controllers WSB

- controllers are designed as two-folded, four-folded and eightfolded in design Elegant and LOGUS⁹⁰

Bezdrátové tlačítkové ovladače

- snadné a pohodlné ovládání na dálku

Room thermoregulator

- designed for room temperature regulation

SOPHY for voice control

- and remote control

Universal Remote (IR) controller

Control keyboard

- integrated security system

Touch screen panel

- for complete control of the whole system by iNELS Designer&Manager(IDM)

Control unit with touchscreen (EST-2)

- compact and smart controller for wall installation in. EST-2 controls lighting, heating and blinds in the room. Design LOGUS⁹⁰.

MULTIMEDIA

iNELS system extension under the pertinent title Multimedia gives a new dimension to living in a house and animates its electroinstallation (and not only it). House management was never easier! iNELS Multimedia contains film, musical, TV and photographic archive, telephone exchange, Intercom and elegant visualization and comfortable control of all technological parts of the house.

iNELS DESIGNER & MANAGER

Software for complex information and control of all appliances that are part of electrical installation. IDM enables assigning and setting of various functions to controllers. It enables presetting of heating modes or control of appliances in dependence on real time, temperature or other events.



Advantages for a CUSTOMER when compared to classical electrical installation:

Comfort

- dimming function (gradual dim-up/dim-down, soft start, light scenes)
- control via touch-screen (built-in in a wall) = complete information
- control via any remote controller (e.g. of your TV or stereo)
- control by voice (Sophy unit, listens to your voice commands)
- temperature regulation according to pre-set programs
 - in each room individually
- possibility to control by mobile phone, computer and Internet

Automatization

- function is executed automatically on the basis of set value (time, temperature, light intensity, movement of people, wind strength...)
- it is possible to execute several functions on the basis of one command or event (e.g. when it is dark - INELS rolls shutters down, switches lights on, increases room temperature and switches TV on, and many others...)
- arrival/departure functions: after a code is entered (or a card read) to a keyboard, system automatically sets electrical appliances according to the identified user.

Information

- system informs you about selected event/events by SMS text message.
- anywhere you are and if you have an access to Internet, you can connect to your house and supervise or change its state.
- integrated security system can be connected to a security agency

Security

- alarm with extended functions is a part of the system
- system is equipped by a keyboard which can be controlled by a code or by an access card
- all settings and accesses are subjects of passwords in several levels
- protection of a house in case of bad weather (shutters in strong winds or storm), unexpected events (faults in the main, overload), natural disasters (sensor for flooding, smoke sensor)

- bio-installation: de-energization of unused electric circuit (e.g. socket outlets in bedroom while sleeping)
- setting ideal conditions for your children's sleep (gradual dimming off, pleasant temperature, motion monitoring = baby-sitting)
- touchable parts of sensors are supplied by a safe voltage 24V DC

Savings

- regulation of heating / cooling
- time or time-limited switching
- light regulation (possible energy savings up to 10%)
- dependant switching (e.g. when it is dark, for adjusted temperature etc...)
- blocking of selected appliances in case of high meter readings
- elimination of unwillingly switched appliances (e.g. when there is no motion - light switches off)

Design

- modern design of the switches and sockets, thermostats, voice activity detectors - optional designs of Elegant or Logus⁹⁰
- variety to combine different colours also in multiframe versions
- touch panel screen - unique solution of elegant wireless home automation

Time for installation

- considerably lower thanks to bus installation (only 2 control wires)
- units are installed and later programmed

Flexibility of changes and extensions

- in future it is possible to add or change units easily
- functions can be changed by PC, also remotely by Internet

Advantageous features for disabled people

- voice and remote control
- sound messages for blind (unit Sophy speaks pre-recorded messages)
- several actions can be done by one command
- control by computer from one spot

Advantages for SYSTEMS PARTNER when compared to classical installation:

It is not necessary to know exact layout and function in advance

- installation can be started immediately (without a project) and be prepared in a universal way
- bus-installation on 2 wires (wiring in the whole house) - meaning no big cables
- units are then connected to this bus anywhere function of units is programmed by computer

Saving time and costs when mounting

- it is not necessary to install control cables
- elimination of possible mistakes during installation (misplacing, missing cable)

Flexibility

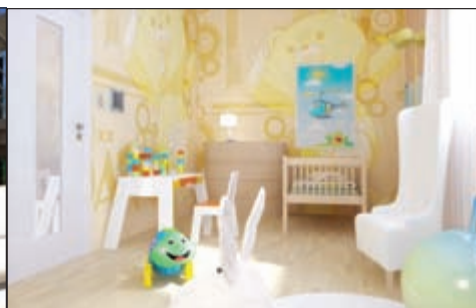
- units can be added anytime without major retrofits
- units can be changed (powerful output, bigger number inputs /outputs)
- function of units can be easily changed in a program (also remotely by Internet)

Services

- electrician can control remotely by Internet
- remote diagnostics of faults and changes in a program can be also done remotely

... last but not least

- higher qualification for your employees and yourself
- extended possibilities on the market, acquiring references
- step ahead of competitors
- enhancement of your company's image



CENTRAL UNIT

„System heart and brain“



CU2-1M

- It is the brain of the complete INELS system and a "mediator" between the user program environment and other sensors and actuators connected to the bus.
- Up to two CIB buses can be connected directly to CU2-01M while up to 32 INELS units of any type can be connected to each bus
- Other units can be connected through MI2-02M extension modules that are to be connected to CU2-01M on TCL2 bus.
- PSM - control of system power supply - mains voltage and condition of backup accumulators
- All data and time are backed up for at least 72 hours in case of a power supply outage
- RJ45 connector of Ethernet port is situated on the face panel of unit, transmission speed is 10 or 100 Mbps.

- It is also possible to utilize 4 potential-less inputs of CU2-01M for connection of external controllers (pushbuttons, switches, sensors, detectors etc.).
- CU2-01M is provided with a display that displays unit status and a functional pushbutton - MODE; the control unit will display communication setting - IP address, mask, gate - when the pushbutton is held pressed.
- CU2-01M 6-MODULE configuration is designated for installation into switchboard on DIN EN60715 rails.
- Configuration of the unit and thus also of the complete system is carried out through Ethernet interface INELS Designer and Manager (hereinafter IDM) that is intended for MS Windows operating system, XP and higher versions.
- CU2-01M can be configured and controlled even remotely through Internet (if the unit is connected to Internet through LAN network).
- Remote control of user functions is possible by means of a web server incorporated in U2-01M through Internet browser (PC, PDA).
- Wide possibility of function programming is offered through software in IDM.
- Through CU2-01M, it is also possible to remotely upgrade firmware of the units connected to bus and MI2-02M.
- Software delivered:
Visualization creating: IDM.
Programming, configuration, control, supervision: IDM. SCADA/HMI Reliance system and OPC server are also available
- TCL2 bus can have max length 300 m (metallic cable – twisted pair), the principles for RS-485 bus are applicable to it (line topology).

SYSTEM UNITS

EXTERNAL MASTER BUS CIB	GSM COMMUNICATOR	BUS SEPARATOR FOR SEPARATION FROM POWER	BUS SEPARATOR FOR SEPARATION FROM POWER	POWER SUPPLY
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Technical parameters	MI2-02M	GSM2-01M	BPS2-01M	BPS2-02M	PS-100 / iNELS
Output	2 x CIB	-	1x 27 V DC	2 x 27 V DC	27.2V DC / 3.7 A +12V DC/ 0.3 A
Power supply / Rated current	27 V DC/25 mA	27 V DC / 250 mA	27 V DC/5 mA	27 V DC/15 mA	230V AC
Temp. measuring	-	-	-	-	-
	Extension of number of units on CIB bus. 2 x CIB 1 x TCL	1 x RS 232 Dual-band EGSM 900 and GSM 1800. For communication with INELS system.	CIB bus impedance separation from power supply	CIB bus separation from power supply with impedance method.	Switched stabilized power supply for control automats supplying.

WALL MOUNTED UNITS AND CONTROLLERS

MULTIFUNCTION UNIT

ANALOG ROOM THERMOREGULATOR

DIGITAL ROOM THERMOREGULATOR

SAFETY KEYBOARD



Technical parameters	SOPHY2/2L/G../E/	IART2-1/E	IDRT2-1/E IDRT2-1/G	KEY2-01M
Number of buttons	2 DI	2 DI/AI	4 DI/AI	18
Power supply / Rated current	27 V DC/60 mA	27 V DC/20 mA	27 V DC/20 mA	24 V DC/80 mA
Temp. measuring	YES	YES	YES	-
	Voice control. Temperature, detection of intensity of ambient light. IR receiver / transmitter of signals. 4 x DI In-built thermo sensor, NTC SOPHY2L without voice control.	Control of assigned heating / cooling circuit. In-built thermo sensor, NTC	Control of assigned heating / cooling circuit. In-built thermo sensor, NTC	For control of electronic security signaling. Control of heating / cooling circuits.

WALL MOUNTED GROUP CONTROLLERS

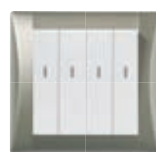
2 spot

4 spot

8 spot

Card reader

Multifunction temperature controller



Technical parameters	WSB2-20/G../E	WSB2-40/G../E	WSB2-80/E	WMR2-11/G../E	WTC2-21/G../E
Number of buttons	2 DI	4 DI	8 DI	12 DI	2 DI
Output	-	-	-	1RO	1RO
Maximum current	-	-	-	8 A / AC 1	16 A / AC 1
Power supply / Rated current	27 V DC/25 mA	27 V DC/25 mA	27 V DC/25 mA	27 V DC/50 mA	27 V DC/50 mA
Temp. measuring	YES	YES	YES	YES	ДА
	Wall mounted controllers with minigap construction. In-built thermo sensor, NTC	Wall mounted controllers with minigap construction. In-built thermo sensor, NTC	Wall mounted controllers with minigap construction. In-built thermo sensor, NTC	For contactless media (chip cards and keychains) reading. In-built thermo sensor, NTC.	For detecting space and floor temperature and temperature circuit switching. In-built thermo sensor, NTC.

SWITCHING ACTUATORS

SHUTTERS ACTUATORS

SWITCHING ACTUATOR
(1 OUTPUTS/ 2 OUTPUTS)

SWITCHING ACTUATOR
(12 OUTPUTS)

SWITCHING ACTUATOR
(1 OUTPUT / 2 OUTPUTS)

SHUTTER ACTUATOR
(2 OUTPUTS)

SHUTTER ACTUATOR
(2 OUTPUTS)



Technical parameters	SA2-01B	SA2-02B	SA2-012M	SA2-02M	SA2-04M	JA2-02B/AC	JA2-02B/DC	HC2-01B/AC	HC2-01B/DC
Output	1 RO	2 RO	12 RO	2 RO	4 RO	2 RO		2 RO	
Maximum curren	16 A/AC1	8 A /AC1	8 A/AC1	16 A / AC1	4 RO	4A/AC3		1A	
Switching capacity	4000 VA/ AC1,384W/DC	2000VA/ AC1,192W/DC	2000 VA/AC1, 240W/DC	4000 VA/ AC1, 384W/DC		1000 VA / AC3		-	
Power supply / rated current	27V DC/40 mA	27 V DC/60mA	230 V AC /50 mA	27V DC/55 mA	27V DC/100 mA	27 V DC/60 mA		27V DC/60 mA	
Temp. measuring	YES		NO	HET		YES		YES	
	For switching appliances and loads with potentialless contact.		For switching appliances and loads with potentialless contact.	For switching appliances and loads with potentialless contact.		For control of motors of shutters, blinds, Venetian blinds and garage door. It controls motors that are controlled in both directions.		It controls electric motors with power supply voltage 24 V DC where direction of drive turning is controlled with change of polarity of motor voltage.	

DIMMING ACTUATORS

DIMMING ACTUATOR
(2 OUTPUTS)

DIMMING ACTUATOR
(1 OUTPUT)

DIMMING ACTUATOR
(1 OUTPUT)

DIMMING ACTUATOR
(1 OUTPUT)

DIMMING ACTUATOR
(2 OUTPUT)



INNOVATION!

Technical parameters	DA2-22M	LM2-11B	DIM-6	DIM6-3M-P	LBC-02M
Output	2 AO / RO	1 AO	1 AO	1 AO	2 AO / RO
Maximum curren	-	-	-	-	16 A / AC1
Switching capacity	2 x 500 VA	1 x 250 VA	1 x 2000 VA	1 x 1000 VA	-
Power supply / rated current	27 V DC / 30 mA	27 V DC / 25 mA	-	-	27V DC / 60 mA
Temp. measuring	YES	YES	-	-	-
	For dimming of RLC light sources (automatic detection of load type).	For dimming of RLC light sources (automatic detection of load type).	For dimming of RLC light sources (automatic detection of load type).	Expandable power module DIM-6. It allows connected load power increasing.	For control of electronic ballasts of fluorescent lamps controlled with signal 1-10 V.

ПРЕОБРАЗОВАТЕЛИ



News!

News!

Technical parameters	ADC2-40M	DAC2-04B	DAC2-04M	ELAN - IR	RF iNELS/USB
Output*	-	4 x 0 (1)-10V / 10 mA	x 0 (1)-10V / 10 mA	3 x IR transmitter	Forms a communication interface and gateway between iNELS and wireless control. Along with the device iMM Client, it controls all RF actuators from a single location (TV) and thus offers a general overview (visualization) of the status of units (appliances). Multimedia (TV). Power: 1W Interface: USB 1.1 and higher, plug „A“ Range: 100 m Min. distance of RF-Touch-actuator: 1m 868 MHz Frequency: 868 MHz Power supply indication: green LED RF communication indication: red LED Two-way communication
Output**	4 AI	-	-	-	
Input	27 V DC / 50 mA	27 V DC / 50 mA	27 V DC / 50 mA	10-27 V DC / 200 mA	
Power supply / rated current	-	-	-	-	
Rated current***	-	ДА	-	HET	
Temp. measuring					
* Analog output / rated current	Connection of analog sensors that generate voltage or current signal and passive resistant sensors.				
** Output (supply 24V DC for valves)					
*** Rated current of unit at full load of output 24 V DC PIR					
	For regulation and control of the systems that are controlled with this signal.		For regulation and control of the systems that are controlled with this signal.		The device features an Ethernet interface and has its own IP address. You can control the controlled device directly from the PC or connect it via Web interface to the commands iMM - most often T ON/OFF, and switch the required input, amplifier ON/OFF, volume UP/DOWN.

INPUT UNITS



Technical parameters	IM2-20B	IM2-40B	IM2-80B	IM2-140M	TI2-40B
Number of inputs	2	4	8	14	4 temp. inputs
Power supply /rated current	27 V DC /15 mA с шинь CIB	27 V DC /15 mA с шинь CIB	27 V DC /15 mA с шинь CIB	27 V DC / 25 mA	27 V DC / 25 mA
Temp. measuring	YES, input to external sensor	YES, input to external sensor	YES, input to external sensor	-	Yes
Rated current of unit for full load on output 12V DC	60 mA	60 mA	100 mA	100 mA	-
	Connection of device with potential-less contact (pushbuttons, switches, PIR movement detectors etc.).		Connection of device with potential-less contact (pushbuttons, switches, PIR movement detectors etc.).		Connection of max. four resistant thermo sensors TC/TZ with common GND terminal. 4 x input to external sensor.

TOUCH SCREEN

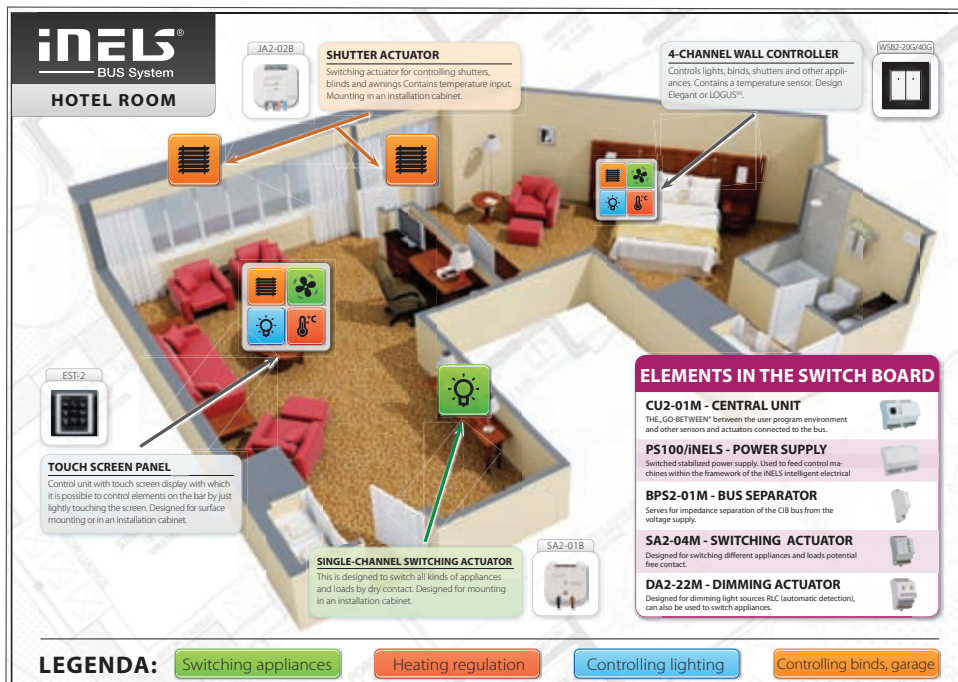
MULTIMEDIA

MOUNTING IN INSTALLATION CABINET		CONTROL UNIT WITH TOUCH SCREEN DESIGN LOGUS ⁹⁰				VIDEOZONE	VIDEOZONE	AUDIO ZONE	
ITP-B 8.4"	ITP-B 10"	EST-2/W	EST-2/B	EST-2/W/RGB	EST-2/W/RGB	IMM CLIENT/DVD_250(1000)	CLIENT/250	SQUEEZE BOX TOUCH	
<p>It is an accessory to the iNELS system, whose elegance helps it perfectly fit in with any modern household. The menu is divided into clearly structured sections in which the icons indicate individual functions. On the right side, you now have the option of connecting with the door communicator, which enables you to see who is ringing and open the door remotely. Here you can also find speedy access to your favorite functions, while keeping a clear eye on what is happening in other zones of your home. You can either mount the ITP flush with the wall (ITP-B) or use its mobile counterpart in the form of a tablet (ITP-T).</p>		<p>EST-2 is provided with 3.5" colorful TFT touch display with resolution of 240x320 pixels with proportion 4:3 and color. Pushbuttons can be controlled with gentle finger touch. Any action in the system can be assigned to each pushbutton. Based on user comments, we improved the EST panel so that customers themselves could choose the number and type of icons. It is possible to separate the display into a matrix of 4, 6, 9 or 12 positions. RGB control - For fans of atmospheric lighting, we have wonderful news - a new function of EST-2 is the RGB control. "You create a lighting atmosphere to best suit your desire. Enjoy color entertainment that not every company can offer! TEMPERATURE CONTROLLER - This easy-to-read temperature controller enables temperature correction in a range of +5°C. You can regulate temperature with the sliding meter, where each mark represents a half of one degree Celsius. If you have the iNELS intelligent system handling your home heating, EST is an even better helper. EST-2/W, EST-2/W/RGB - For surface mounting EST-2/B, EST-2/B/RGB - Mounting in installation cabinet</p>				<p>Управление функциями iNELS системы через ТВ. Подключение мультимедиа, система наблюдения и управления безопасности - камеры, домофоны. Подключение и визуализация метеостанции, подключение и просчет информации от счетчиков газа, воды, электричества. Стильный Design. Хранилище и проигрывание фильмов, музыки, база фотографий. Память 250 GB (1000 GB).</p>		<p>Аудиозона с подключением к клиенту.</p>	

CASE STUDY

Can you really imagine what all our systems can bring to your life? Did you ever consider all around service in security, comfort and automation? So many different ways to control and regulate... Let your home take care of itself. You only tell it at the beginning how to effectively handle power, light, heating and air-conditioning, and it will reward you with comfort and a clear status overview.

We have prepared for you case studies of a house, an apartment and a hotel room. We applied a sample installation in each design based on relay, wireless solution, intelligent wiring system and multimedia extensions. All this either individually or in combined fashion is brought to you by iNELS SMART HOME SOLUTIONS.



relay APARTMENT

SMR-S
CONTROLLED DIMMER
Used to control brightness of bulbs/lamps. Button-controlled dimmer for mounting in installation cabinet.

SMR-T
SUPER MULTIFUNCTION RELAY
Multifunction relay designed for mounting in installation cabinet, under a button or switch. Delay shutoff of exhaust.

2-BUTTON CONTROLLER
Controls lights, blinds, shutters and other appliances. In the LOGUS® luxury design.

ELEMENTS IN THE SWITCH BOARD
HRN-43 - MONITORING RELAY
Relay for complete control of 3-phase networks. Protects your electronic devices from overvoltage and undervoltage from the network. DIN rail mounting.
VS116U - AUXILIARY RELAY
Used to strengthen or „multiply“ contacts of the existing device.
HRH-5 - LEVEL SWITCH
This relay is designed to check the level in wells, reservoirs, tanks, pools, tankers, hoppers, etc.
PRI-51 - MONITORING CURRENT
Used to monitor rod heaters in switches, heating cables, indication of current single-phase motors to monitor consumption, etc.

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ANALOG/DIGITAL THERMOSTAT
Area analog thermostat with built-in temperature sensor. Switches floor heating based on the set temperature in the room.

DTC
ATC

LEGEND:

Switching appliances

Heating regulation

Controlling lighting

Controlling shutters

Detectors

INELS MULTIMEDIA EXTENSION APARTMENT

Squeezebox
Squeezebox - Audio Zone player
Thanks to its small size, you can place the Audiozone connected to the system and the main data repository practically anywhere. So you know quickly just where to find your safely stored favorite music.

GYROSCOPIC CONTROLLER
This gyroscopic controller is in a class by itself, and is an elegant accessory to the INELS system. It is a comfortable combination of advantages of a classic remote control and a computer mouse, and it has taken on a perfectly ergonomic shape.

ITP-B
TOUCH SCREEN PANEL
This is an addition to the INELS system, whose elegant design makes it fit right in with your home. It can be placed anywhere you like, perhaps even in the bathroom. Panels are designed to be installed flush with the wall.

IMM Client
IMM Client
Enables control of all INELS system functions through the TV. Elegant, quiet design. Data repository size 250 GB.

TV
TELEVISION
Thanks to the clearly understandable projection on the television screen, you have a perfect eye on what's going on inside and outside your home. Just install the video cameras and connect them with the system.

IPHONE
iPHONE/Smart phone
Comfortable control of the Home automation system via your IPHONE, Smart phone.

CAMERA
INDOOR VIDEO CAMERA
The system supports connection, display and control of IP video cameras including PTZ (controlling position, image zoom in/out, recording, etc.).

LEGEND:

Switching appliances

Heating regulation

Controlling lighting

Controlling shutters

Detectors

INELS RF Control FAMILY HOME

RF-TOUCH
WIRELESS TOUCH SCREEN PANEL
Used for complete control of your household. Control and dimming of lights, blinds, regulates and measures temperature, option of setting scenes, etc. Designed for use in an installation box and for wall-mounting in the LOGUS® luxury design.

RFSA-61B
WIRELESS SWITCHING ACTUATOR
This is used for switching sockets and electrical devices. Option of control by all transmitters. Designed for mounting in an installation cabinet.

JA-80P
MOTION DETECTOR
Also ready to serve under automatic control are detectors that react to movement, opening of a window or a drop in temperature. (Ex. motion sensor switches the light)

RFWS-20C/40G
WIRELESS SWITCHES
Used to control lighting, blinds, shutters, electrical appliances, etc. They have a flat base, so they can be placed anywhere - on glass, a wall, a beam, etc. In the LOGUS® design.

RFDA-71B
WIRELESS DIMMING ACTUATOR
Used to dim lights, to create light scenes (when watching TV), for fluid run-up or run-down of light. Designed for mounting in an installation cabinet.

RFS1-11B
SWITCHING TEMPERATURE SENSOR
Use to measure temperature by internal or external temperature sensor information on temperature is sent to RF Touch, which gives the signal ex. to shut off heating. Designed for mounting in an installation cabinet.

RFJA-12B
WIRELESS SHUTTER ACTUATOR
Serves to control blinds, awnings, shutters, garage doors, etc. Designed for mounting in an installation cabinet.

LEGEND:

Switching appliances

Heating regulation

Controlling lighting

DESIGN LINES

BASE
|plastic



BR - White



MF - Ivory

AQUARELLA
metallic



GE - Ice



PE - Pearl



AL - Aluminium



IS - Gray

CRYSTAL
glass



CG - Cristal/Ice



CP - Cristal/Pearl



CA - Cristal/Aluminium



CS - Cristal/Gray

METALLO
metal



TP - Titanium/Pearl



IA - Inox/Aluminium



OP - Gold/Pearl



QS - Nickel/Gray



US - Aluminium/Gray



RS - Chrome/Gray

ARBORE
wood



FP - Beech Wood/Pearl



JP - Cherry Tree/Pearl



MS - Mahogany/Gray



NA - Walnut Tree/Aluminium

PETRA |
granite



GG - Granite/Ice



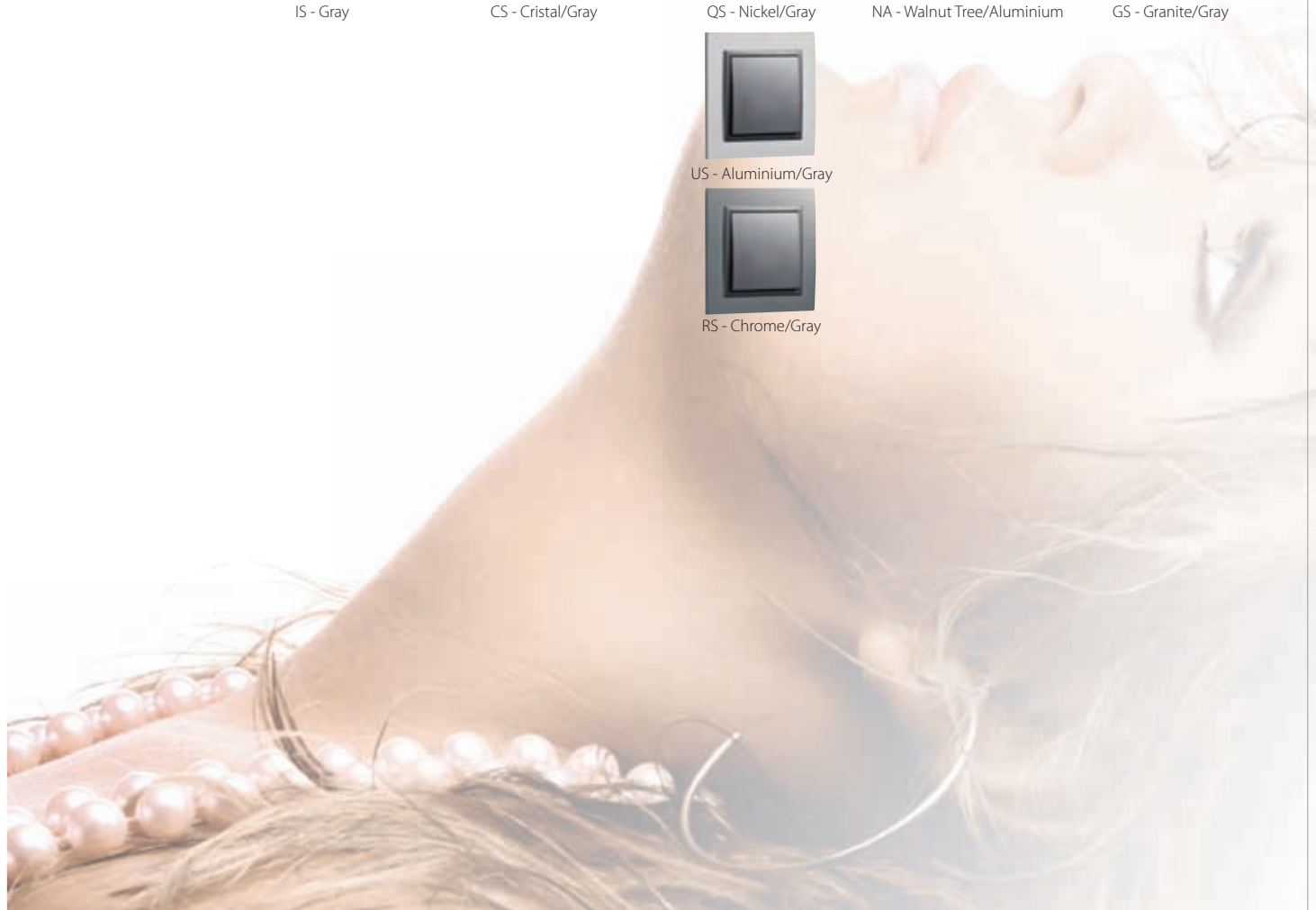
GP - Granite/Pearl



GA - Granite/Aluminium



GS - Granite/Gray



DEVICES OVERVIEW



DEVICES OVERVIEW

- switches
- switches with lock
- over-switches
- rotary switches
- dimming switches
- pushbuttons
- switch, pulling switch
- shutters controllers
- shutters controllers with IR sensor
- digital time switch
- motion detectors
- card switch
- Jazz Light Sound system
- audio system units
- standard
- Schuko, EURO-USA
- ceramic
- data sockets Cat 5, Cat 6
- radio, TV, satellite, data
- telephone sockets

NEW!

- double button (2NO+2NC)
- programmable thermostat (space/floor)
- simple thermostat (space/floor) with infrared control
- automatic relay for controlling blinds
- multimedia sockets
- IP 44 socket cover with frame
- IP 44 safety socket cover for types French, Schuko
- IP 44 simple cover
- IP 44 double cover
- complete screwless socket (Schuko) with plates
- complete British standard socket
- LED lamp for backlighting mechanisms MEC 21 / 48 Series - 12V(250V)

EXAMPLE OF ORDER

MECHANISM
MEC 21 Series
Ref. 21011

Frame
Ref. 90910 TBR
70910 TBR
50910 TBR

Rocker / Cover Plate
Ref. 90601 TBR
70601 TBR
50601 TBR

Complete Product

Select the Reference of:

- the Mechanism of the function that you need;
- the Frame of the chosen Series finishing;

• the Rocker/Cover Plate applicable to the chosen mechanism in the selected Series.
Ex: 21011 + 90910 TYY + 90601 TYY

НОВИНКИ

SIMPLE DIGITAL THERMOSTAT WITH INFRA CONTROL (room/floor)



- Power: 230V AC/ 50Hz
- Switching contact: 16A
- Alternating contact (NO+NC), no power
- Room temperature range 0 to 35°C:
- Option of remote control by special infrared controller
- Option of connecting a floor heat sensor

PROGRAMMABLE THERMOSTAT (room/floor)



- Power: 230V AC/ 50Hz
- Switching contact: 16A
- Alternating contact (NO+NC), no power
- Room temperature range 0 to 35°C:
- Automatic daylight savings time adjustment
- Option of connecting a floor heat sensor



R-TV-SAT-RJ45

Cat. 6 UTP - FO SC-APC
Multimedia socket for connecting in star
- 4 - 862 MHz: < 1dB.
- 950 - 2400 MHz: < 3dB.
- Current flow max. 500mA (DC)



R-TV-SAT-RJ45

Cat. 6 UTP
Multimedia socket for connecting into star For use with fiber-optic connector type SC APC Simplex or LC Duplex
- 4 - 862 MHz: < 1dB.
- 950 - 2400 MHz: < 3dB.
- Current flow max. 500 mA (DC)



R-TV-SAT-2XRJ45

Cat. 6 UTP
Multimedia socket for connecting to star
- 4 - 862 MHz: < 1dB.
- 950 - 2400 MHz: < 3dB.
- Current flow max. 500 mA (DC).



R-TV-DAT
(terminal)

- coaxial cable 0.95 - RTV - „F” connector - DAT
4-82 MHz:<1dB
84-108 MHz:<2dB
112-1000 MHz:<1dB



R-TV-DAT
(through-type)

- coaxial cable 0.95 - RTV - „F” connector - DAT
4-82 MHz:<1dB
84-108 MHz:<2dB
112-1000 MHz:<1dB

ADVANTAGES MECHANISMS

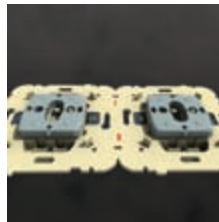
Mechanism are made of special alloy of non-flammable plastics that prevent in destruction or damage of device body thanks to their strength and elasticity. The plastic design of the mechanism simultaneously ensures safe insulation from conductive parts of installation.



Quick Clips allow installation to adjust the frame on an uneven wall (two positions for the "snap" frame). Inequality walls will allow the deal and floating fingerboard.



Ability to test electrical functionality of your device without disassembly.



Shaped edge of the body mechanism to align the mounting multiple devices.



Depth 20 mm only allows mounting to instrumentation /device/ box.



Screwless terminals provide fast and quality connection without need of instrument usage. Double terminals on every pole provide multiple connection without need of extra terminals usage.



Ability to test electrical functionality of your device without disassembly

JAZZ LIGHT SOUND SYSTEM

Jazz
Light série

- At home, at the office, at public places, the company of music and news provides moments of comfort and welfare.
- The Jazz Light Series has a wide range of elements for the installation of Surrounding Sound System in buildings, offices and shopping areas.
- With its new Modular Sound Central Units, Sound Control Units and Power Supplies it is possible to simplify the installation and make easy to use the Surrounding Sound system.
- The Jazz Light Sound System of EFAPEL lets you hear selected music comfortably into any reliance in your house and control it according to your needs.
- Listen to the music you wish: You can tune directly to your favourite radio station, or if you prefer, you can connect to the auxiliary input another source or program of music (mobile phone, MP3 player, computer, television).
- Live the music where and how you want: feel the pleasure of the good music, a film or a concert in your living-room and with the volume of sound that you really like.
- The products of the new Jazz Light Series are available in all the finishing of the LOGUS⁹⁰, offering a wide range of possibilities for decorating and customizing your space.



EXAMPLE OF THE INSTALLATION

- central unit
- independent central units
- supplementary central units to the central unit
- power supplies - to installation box / soffits / on DIN rail
- loudspeakers - mounted to the ceiling / on the surface
- accessories

DESCRIPTION OF INSTALLATION

You can choose 2 types of installation:

- 1. Centralized installation (with the installation of the Modular Sound Central Unit):**
 - recommended for situations in which it is intended to use an external audio source and distribute it throughout the installation.

Example of a typical Centralized Installation:

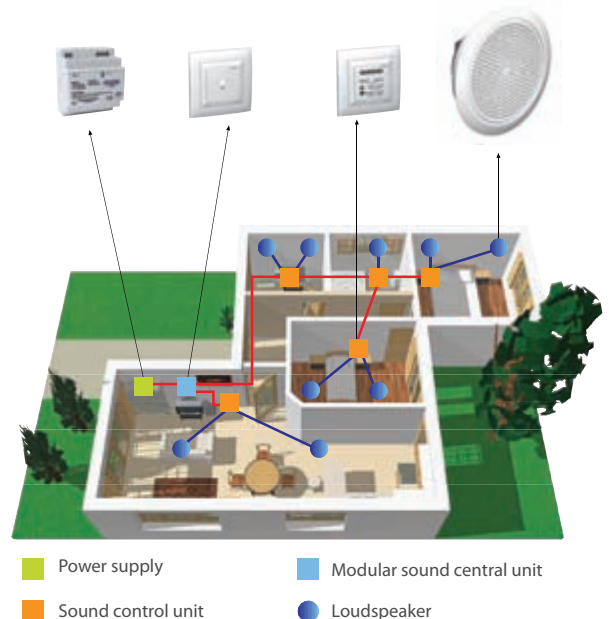
- 30 W Power Supply Module, - 30 mounted on a DIN rail in the electrical panel of the installation. It can feed DC current up to 10 Stereo Sound Control Units.
- 1 Channel Modular Sound Central Unit located near to an external source of sound, such as a television set or a Hi-Fi system.
- Sound Control Units and their respective Loudspeakers, distributed by the various division of the house, where each resident can use individually the Surrounding Sound System.

- 2. Non Centralized Installation (without the use of the Modular Sound Central Unit):**

- recommended for situations in which an individual or independent sound installation is needed.

Example of a typical Non Centralized Installation:

- 30 W Power Supply Module, mounted on a DIN rail in the electrical panel of the installation. It can feed DC current up to 10 Stereo Sound Control Units.
- FM Sound Control Units and their respective Loudspeakers, distributed by the various divisions of the house, working in an independent manner.
- With New Sound Controls Units with Remote Control incorporated you can enjoy a greater comfort, being able to comfortably control the surrounding sound system with the IR Remote Control Transmitter.





INSTALLATION CONTACTORS

INSTALLATION CONTACTORS
1-MODUL



INSTALLATION CONTACTORS
1-MODUL



INSTALLATION CONTACTORS
3-MODUL



INSTALLATION CONTACTORS
4.5-MODUL



MINIATURE INSTALLATION
CONTACTOR



Technical parameters	VS120	VS220	VS425	VS440	VS463	VS420
Number of poles	1	2	4	4		4
Load	20 A	20 A	25 A	40 A	63 A	20 A
Configuration of contacts NO/NC	10, 01	20, 11, 02	40, 31, 22, 04	40, 31, 22, 04	40, 31, 22	40, 31
Coil power supply	AC/DC 24 V, 48 V, 110 V, 230 V		AC/DC 24 V, 48 V, 110 V, 230 V	AC/DC 24V, 48V, 110V, 230V, 110V, 230V		AC 24 V, 48 V, 110 V, 230 V 12

It is used to switch electric circuits, in particular resistance loads and three-phase asynchronous motors. IP 20 protection - guards providing IP 40 protection of all contactor terminals are available upon request. It is possible to connect auxiliary contact VSK-11 and VSK-20 to the contactors VS220, 425, 440, 463. Installation on DIN rail or on panel.

INSTALLATION CONTACTORS

МОНТАЖНЫЕ КОНТАКТОРЫ
С РУЧНЫМ УПРАВЛЕНИЕМ



Technical parameters	VSM220	VSM425
Number of poles	2	4
Load	20 A	25 A
Configuration of contacts NO/NC	20, 11, 02	40, 31, 22, 04
Coil power supply	AC 12 V, 24 V, 42 V, 48 V, 110 V, 127 V, 230 V	AC 12 V, 24 V, 42 V, 48 V, 110 V, 127 V, 230 V

They are used to switch accumulation appliances for heating and service hot water heating. Optical indicator of on - off status. VSK- 11 and VSK-20 auxiliary contacts can be connected to VSM220 and VSM425 contactors.

INSTALLATION CONTACTORS



1. by sliding the switch from AUTO to position 1, the switching contacts are closed and the NC contacts are open. This lasts until the following impulse to the contactor coil.

AUTO: normal function of the contactor as an installation contactor without manual control

0: contacts are constantly disconnected (switching contact) or are constantly switched on (NC contact) regardless of voltage. Optical status indicator switched on/off.

TIME RELAYS

	SINGLE-FUNCTION TIME RELAY		DELAYED RETURN WITHOUT POWER SUPPLY VOLTAGE	TWO-GRADE DELAY UNIT	DELAYED ON STAR / DELTA	ASYMMETRIC CYCLER
Technical parameters	CRM-81J	CRM-83J	CRM-82T0	SJR-2	CRM-2T	CRM-2H
Number of functions	3		2	2	1	2
Time range	0.1 s - 10 h (6 ranges)		0.1 s - 10 min. (4 ranges)	0.1s - 10 days (8 ranges)	0.1 s - 100 days (10 ranges)	0.1s - 10 days (10 ranges)
Number of contacts	1x switch. AgNi 3x switch. AgNi		2x switch. AgNi	2x switch. AgNi	2x switch. AgNi	1x switch. AgNi
Rated current	16 A/AC1 8A/AC1		8 A / AC1	16A / AC1	16A/AC1	16A/AC1
Power supply	AC 230 V, AC/DC (12-240V)		AC/DC (12-240V)	AC 230 V, AC/DC (12-240V)	AC 230 V, AC/DC 12-240 V	AC 230 V, AC/DC (12-24V)
	Single-function and single-time relay. Suitable for applications with beforehand known requirements for function and time. ZR - delayed start ZN - delayed return BL - cyler 1:1.		Relay is timing without power supply voltage and is switched off after set period. Two time functions selectable by using a rotary switch: a- delayed return after power supply is switched off : e - delayed start.	Serves for sequent switching of high power (for example electrical heating). 2 time functions: 2x delayed start. Adjustable time from 0.1 s to 10 days.	Designated for delayed star/ delta motor start. Time t1 λ (star) – adjustable time from 0.1 s to 100 days. Time t2 (delay) between λ / Δ - time range from 0.1 s to 1 s.	Asymmetric cyler with independently adjustable output closing and opening time. 2 time functions: 1) cyler starting with impulse. 2) cyler starting with gap.

MULTIFUNCTION TIME RELAYS

	MULTIFUNCTION TIME RELAY	MULTIFUNCTION TIME RELAY	MULTIFUNCTIONAL TIME RELAY WITH CONTACTLESS	TIME RELAY WITH EXTERNAL POTENTIOMETER	ASYMMETRIC CYCLER WITH EXTERNAL POTENC.
Technical parameters	CRM-61	CRM-91H CRM-93H	CRM-9S	CRM-91HE	CRM-2HE
Number of functions	6	10	10	10	2
Time range	0.1 s - 10 h	0.1 сек - 10 дней	0.1s - 10 days	0.1s - 10 days	0.1s - 100 days
Number of contacts	1x switch. AgNi	1x switch. 3x switch.	1x triac	1x switch. AgNi	1x switch. AgNi
Rated current:	8A/AC1	16A/AC1 8A/AC1	0,7 A	16A/AC1	16A/AC1
Power supply	AC 24-240 V, DC 24 V	AC 230 V, AC/DC (12-240V)	AC (12-240V)	AC/DC (12-240V)	AC/DC (12-240V)
	Use for electric appliances, control of lighting, heating, motors, pumps etc., ...6 functions. Comfort and transparent setting of functions and time ranges is carried out with function rotary switches.	Multifunctional time relay for universal use in automation, management and control or in house installations. Thanks to its abundant equipment (10 functions, 10 time ranges, universal power supply, 16A or 3x8A contact), it covers all requirements. Comfort and transparent setting of functions and time ranges is carried out with function rotary switches. <u>CRM-9S</u> : absolutely noiseless switching.		Time relay with possibility of time control with external control component - potentiometer. <u>CRM-91HE</u> : multifunction time relay. Time adjustable from 0.1 s to 10 days. <u>CRM-2HE</u> : asymmetric cyler.	

DIGITAL TIME RELAYS					SUPER MULTIFUNCTION						
TIME SWITCH WITH WEEKLY PROGRAM		TIME SWITCH WITH YEARLY PROGRAM		PROGRAMMABLE DIGITAL RELAY	SUPER-MULTIFUNCTION RELAY		SUPER-MULTIFUNCTION RELAY				
Technical parameters	SHT-1	SHT-3	SHT-1/2	SHT-3/2	SHT-4	PDR-2A	PDR-2B	SMR-K	SMR-T	SMR-H	SMR-B
Number of functions	одноканальный	двухканальный	двухканальный		двухканальный	16	10	9		10	
Time range	мин. шаг 1сек		мин. шаг 1сек		мин. шаг 1сек	0.01 сек - 100 час		0.1 сек - 10 дней		0.1 сек - 10 дней	
Number of contacts	1x switch.	2x switch.	2x switch.		2x switch.	2x switch.	2x switch.	1x triac		1x коммут. AgSnO ₂	
Rated current	16A/AC1		16A/AC1		16A/AC1	16A/AC1 16A/AC1		-		16 A	
Power supply	AC 230 V, AC/DC (12-240V)		AC 230 V / 50 - 60 Hz		AC 230 V, AC/DC (12-240V)	AC 230 V, AC/DC (12-240V)		AC 230 VV		AC 230V	
<p>Serves for control of various appliances in dependence on real time, in daily, weekly and annual mode. Automatic transfer between summer and winter time. Sealable transparent front panel cover. 100 memory places, back-lighted LCD display. Reserve real time backup - up to 3 years.</p>					<p><u>PDR-2A</u>: - 30 memory places for most frequently used times <u>PDR-2B</u>: - 2 time relays in one device.</p>			<p>Relay designated for mounting into installation box, under pushbutton or switch into existing electro-installation. <u>SMR-K</u>: 3-wire connection, it operates without "NEUTRAL" connection. <u>SMR-T</u>: 3-wire connection, it operates without "NEUTRAL" connection, output power: 10-160 VA, it cannot be used for fluorescent and saving lamps. <u>SMR-H</u>: 4-wire connection, output power: 0-200 VA, it cannot be used for fluorescent and saving lamps. <u>SMR-B</u>: 4-wire connection, it allows switching of fluorescent and saving lamps</p>			

SOCKET RELAYS				STAIRCASE SWITCHES				
TIME RELAY INTO SOCKET		ASYMMETRIC CYCLER INTO SOCKET		STAIRCASE AUTOMAT	PROGRAMMABLE STAIRCASE AUTOMAT		STAIRCASE AUTOMAT WITH DIMMING	
Technical parameters	PRM-91H	PRM-92H	PRM-2H	CRM-4	CRM-42	CRM-42F	DIM-2	DIM-2 1h
Number of functions	10		2	3	3		4	
Time range	0.1 s - 10 days		0.1 s - 10 days	0.5 s - 10 min	0.5 s - 10 min		0 s - 20 min	
Number of contacts	1x switch. AgNi	2x switch. AgNi	2x switch. AgNi	1x switch. AgSnO ₂	1x switch. AgSnO ₂		1 x triac	
Rated current	16A/AC1 8A/AC1		8A/AC1	16A/AC1	16A/AC1		Load - R:10 - 500VA, L: 10 - 250VA	
Power supply	AC/DC (12-240V)		AC/DC (12-240V)	AC 230 V	AC 230 V		AC 230V	
<p>Equivalents of modular types of relays, constructed for standardized round 11-pin or 8-pin sockets. Socket design allows easy replacement, substitution of older types of relays (pin compatible) or simple replacement of auxiliary relay by timer. PLUG-IN version, installation into socket.</p>				<p>Serves for delayed lighting turning off in staircase, corridor or entrance. It is controlled with pushbutton or several pushbuttons from more places (parallel connected).</p>		<p><i>News!</i> Intelligent staircase automat for same application as <u>CRM-4</u>, however, with extended possibility of control in "PROG" mode, it is possible to select delayed switching off time with the number of depressions of control pushbutton. <u>CRM-42F</u>: Staircase switch without warning flashes</p>		<p>Regulation: - start duration - 1-40s - finish duration - 1-40s - time for which light should have the set brightness - 0s-20min - brightness to which lighting should be activated - 10-100% DIM-2 1h start/ finish duration 1h</p>

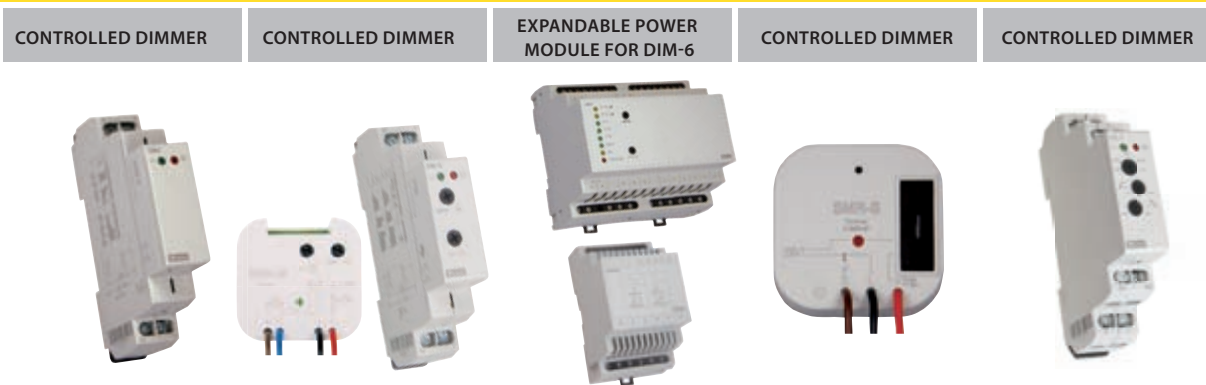
POWER RELAYS



News!

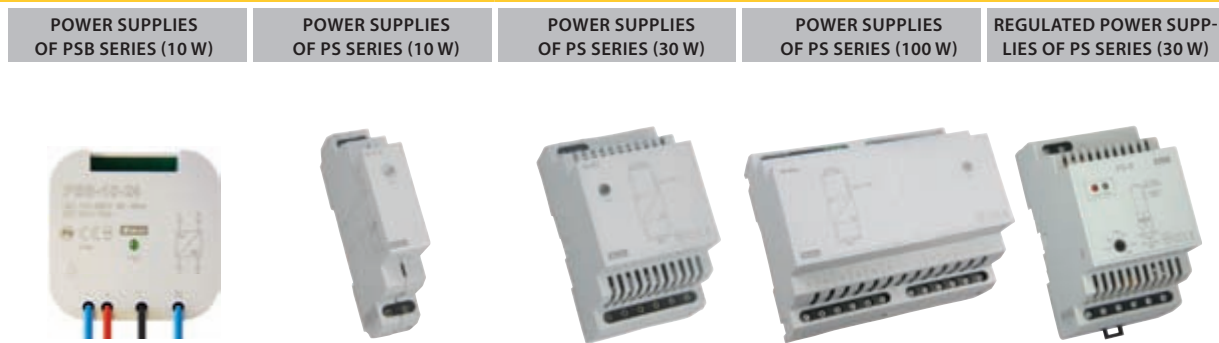
Technical parameters	VS116B/230	VS116K	VS116U	VS308K	VS308U	VS316/24	VS316/230	750	782
Power terminals	L-N	A1 - A2	A1 - A2	A1 - A2	A1 - A2	A1 - A2	A1 - A2	A1 - A2	
Power supply	AC 230 V/50-60 Hz	AC 230 V	AC/DC 12-240V	AC 230 V AC/DC 12-240 V		AC/DC 24 V	AC 230 V	AC (6,12,24,120,230 V)	
Power terminals	-	A1 - A3	-	A1 - A3	-	-	-	-	
Power supply	-	AC/DC 24 V	-	AC/DC 24 V	-	-	-	DC (6,12,24,48,110V)	
Number of contacts	1x switch. (AgSnO ₂)	1x switch. (AgSnO ₂)		1x switch. (AgSnO ₂)		3x switch. (AgSnO ₂)		3x switch. (AgSnO ₂) 4x switch. (AgSnO ₂)	
Rated current	16 A/ AC1	16A/AC1		16A/AC1		16A/AC1		16 A	8A
	They are used as enhancement or extension for existing device contact numbers. Possibility of LED color selection for output status indication: red, green, yellow, blue or white LED. VS116B/230 - MINI					VS316/24 or VS316/230 allows switching of different phases or 3-phase voltage.		It is used to switch a higher output (load) than the capacity of switching element = amplifier. Auxiliary control of lighting, signaling, relay interlocks, boilers, HDO, direct heaters, mechanical indication incorporated in standard, LED indication, cadmium-free gold-plated contact, locking lever.	

DIMMERS



Technical parameters	DIM-5	DIM-14	SMR-M	DIM-15	DIM-6	DIM6-3M-P	SMR-S	SMR-U	LIC-1
Number of contacts	1 x triac	2xMOSFET	1 x triac	2x MOSFET	4 x MOSFET	2 x MOSFET	1xtriac	2xMOSFET	2x MOSFET
Rated current:	2A		2A		10 A	5 A	-		5 A
Power supply	AC 230V / 50 Hz		AC 230V / 50 Hz		AC 230V /50 Hz	AC 230V / 50 Hz	230 V AC		AC 230V /50-60Hz
Load	R -10- 500 VA	R - 500 VA	ESL	ESL	R - 2000 VA	R - 1000 VA	R -10-300 VA	R - 500 VA	R - 1000VA,
	L -10-250 VA	L - 500 VA	LED	LED	L - 2000 VA	L - 1000 VA	L -10-150 VA	L - 500 VA	L - 1000VA, C - 1000VA
	-	C - 500 VA	-	-	C - 2000 VA	C - 1000 VA	-	C - 500 VA	ESL, LED
	Designated for dimming of bulbs and halogen lamps with wound or electronic transformer. Possibility of parallel control buttons arrangement .		Designated for dimming of dimmable LED bulbs with power supply 230 V and dimmable saving fluorescent lamps. Slight setting of light intensity by using pushbutton.		Dimmer can be controlled by several methods: pushbutton, external potentiometer, analog signal 0-10V, INELS bus system. Possibility of modular extension up to 10 000 VA.		Expandable power module for DIM-6 cannot be operated separately.		Pushbutton controlled dimmers designated for mounting into installation box. They are used for control of lamp brightness, possibility of control from more places.

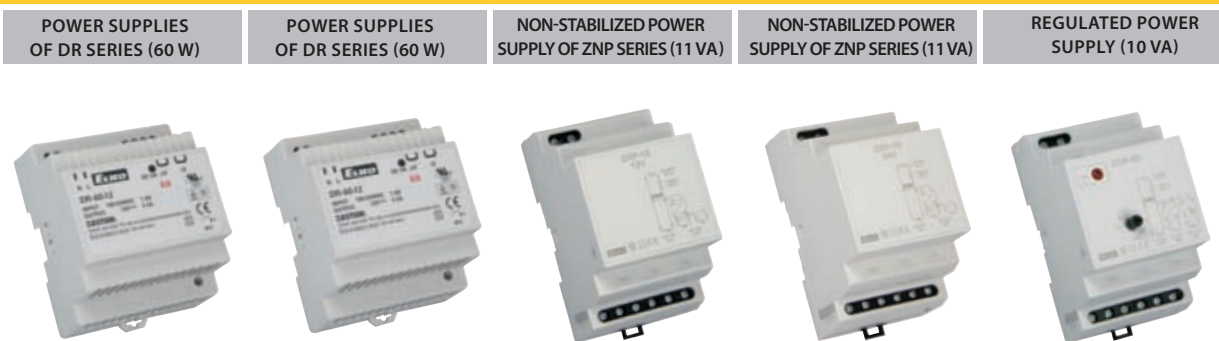
STABILIZED POWER SUPPLIES



Technical parameters	PSB-10-12	PSB-10-24	PS-10-12	PS-10-24	PS-30-12	PS-30-24	PS-100-12	PS-100-24	PS-30-R
Output voltage	12V DC 24V DC		12V DC 24V DC		12V DC 24V DC		12V DC 24V DC		12-24V DC
Max. load	0.84 A/10W	0.42 A/10W	0.84 A/10W	0.42 A/10W	2.5 A/30W	1.25 A/30W	8.4 A/100W	4.2 A/100W	2.5-1.2A/30W
Number of modules	1		1		3		6		3
Output voltage tolerances	± 2%		± 2%		± 2%		± 2%		± 2%
Power supply	AC 230V / 50..60 Hz		AC 230V / 50..60 Hz		AC 230V / 50..60 Hz		AC 230V / 50..60 Hz		AC 230V / 50..60 Hz

PSB-10: switched stabilized power supplies with fixed output voltage, MINI
PS-10: switched stabilized power supplies with fixed output voltage, 1-module configuration.
PS-30: switched stabilized power supplies, 3-module configuration.
PS-100: switched stabilized power supplies with fixed output voltage, 6-module configuration.
 Output current is limited with an electronic fuse; power supply switches off in case of exceeding maximum current and switches on again after a short time delay. Thermal protection - power supply switches off at thermal overloading and it switches on again after cooling down.

POWER SUPPLIES



Technical parameters	DR-60-12	DR-60-24	ZNP-10-12	ZNP-10-24	ZSR-30
Output voltage	output 12V DC	output 24V DC	DC12V non-stab.	DC24V non-stab.	DC5-24V stab. / DC 24V non-stab..
Max. load	4.5 A/54 W	2.5 A/60 W	10VA	10VA	10VA
Number of modules	4.5	4.5	3	3	3
Output voltage tolerances	+/-2%	+/-2%	-	-	± 5%
Power supply	88-264V AC/47-63 Hz/124-370V DC		AC 230V / 50-60 Hz	AC 230V / 50-60 Hz	AC 230V / 50-60 Hz

Switched stabilized power supply. Input voltage (Uprim) in wide range 100-240 V AC. Electronic protection against short circuit, overloading and overvoltage.

Power supply with fixed output voltage. Protection against short circuit and overloading with a melting fuse. Both AC and DC output voltage: 12V or 24V / 8 W, non-stabilized.

Controllable power supply. Supplying of various devices and appliances with safe voltage and full galvanic separation from the mains.

BELL TRANSFORMERS

USS MODULES

BELL TRANSFORMERS OF ZTR SERIES (8 VA)

BELL TRANSFORMERS OF ZTR SERIES (15 VA)

CONTROLLING AND SIGNALING MODULES USS-ZM, USS-00 .. USS-15



Technical parameters	ZTR-8-8	ZTR-8-12	ZTR-15-12	USS-ZM - BASIC MODULE
Output voltage	AC 8 V	AC 12 V	AC 4 V, 8 V, 12 V	USS-00 - Blind flange USS-01 - Switch USS-02 - Switch over USS-03 - Switch with intermediate position USS-04 - Switch + pushbutton with intermediate position USS-05 - Switching pushbutton with intermediate position USS-06 R/S - Pushbutton closing/opening
Max. load	8 VA		4V 5 VA-8V 10 VA-12 V 15 VA	Designated for switching, control and signaling of auxiliary and power circuits. USS- "Do-it-yourself" = various types of switching and signaling units can be "snapped" in the basic module. Units are supplied separately, individual configurations are assembled by the user. it is possible to place up to two units into one MODULE (for example 2x switch, 2x signalling lights or combinations) = when compared with competitors it is saving place in a switch board. 1-MODULE, DIN rail mounting. Operating temperature -20.. +5°C
Number of modules	2		2	
Output voltage tolerances	-		-	
Power supply	AC 230 V / 50 Hz		AC 230 V / 50HzVDC	
	Designated for general use - e.g. for door bell, door lock supplying. Universal power supply with alternating output voltage.			

TWILIGHT SWITCHES

MEMORY RELAYS

TWILIGHT SWITCH WITH EXTERNAL SENSOR

TWILIGHT SWITCH WITH TIME SWITCH

TWILIGHT LIGHT SWITCH WITH IN-BUILT SENSOR

MEMORY RELAY

MEMORY STEPPING RELAY



INNOVATION!

Technical parameters	SOU-1	SOU-2	SOU-3	MR-41	MR-42
Sensor	external	external	internal	-	-
Time delay	0 - 2 мин.	0 - 10 мин.	0/1 мин. / 2 мин.	-	-
Number of contacts	1x switch.(AgSnO ₂)	1x switch.(AgSnO ₂)	1x switch.(AgSnO ₂)	1x switch.(AgSnO ₂)	2x switch.(AgSnO ₂)
Rated current	16 A / AC1	8 A / AC1	12 A / AC1	16 A / AC1	16 A / AC1
Power supply	230 V AC/DC 12 - 240V	AC 230 V / 50-60 Hz	AC 230 V / 50-60 Hz	AC 230 V, AC/DC 12-240 V	AC 230 V, AC/DC 12-240 V
	It can be used for control of lighting on basis of ambient light intensity. Adjustable lighting level in two ranges: 1-100 LX and 100-5000Lx. Time delay 0-2 min.	Designated for control of lighting on basis of ambient light intensity and real time (combination of SOU-1 and SHT-1 time switch in one). Adjustable lighting intensity level 1-50000Lx. Innovation: Plug-in model for replacing backup battery.	It can be used for control of devices on basis of ambient light intensity level. Outdoor configuration with IP65 protection. Inbuilt light intensity sensor. 2 devices in one - twilight switch, light switch.	Memory (impulse) switches controlled with pushbuttons for lighting control from more places. Relays remember their condition even after power supply outage recover, so that relay is always turned off during power supply outage and after power supply recovers, relay returns in the same condition as before power supply outage. MR-42 -options - 2x parallel contacts or the other relay is latching.	

MONITORING VOLTAGE RELAYS - 1 phases

MONITORING VOLTAGE RELAY, 1 PHASE, AC MONITORING VOLTAGE RELAY, 1 PHASE, AC MONITORING VOLTAGE RELAY, 1 PHASE, AC MONITORING VOLTAGE RELAY, 1 PHASE, AC/DC MONITORING VOLTAGE RELAY, 1 PHASE, AC/DC



Technical parameters	HRN-33	HRN-63	HRN-35	HRN-37	HRN-67	HRN-34	HRN-64	HRN-41	HRN-42	
Number of contacts	1x switch. (AgNi)		1x switch. для каждого ур. (AgNi)		1x switch. (AgNi)		1x switch. (AgNi)		2x switch. (AgNi)	
Rated current:	16 A		16 A		16 A		16 A		16 A	
Контроль цепей	1 фазовых		1 фазовых		1 фазовых		DC		1 фазовых/ DC	
Контролируемое напр. Umin/max	48 - 276 V		48 - 276 V		24 - 150 V		6 - 30V 18 - 30V		10 - 50V, 32 - 160V, 100 - 500V	
Power supply	AC 48 - 276 V		AC 48 - 276 V		AC 24 - 150 V		DC 6 - 30 V		AC 230 V, AC 400 V, AC/DC 24 V	
	Serves for monitoring of power supply voltage for appliance sensitive with respect to power supply tolerances, device protection against undervoltage / overvoltage. It monitors undervoltage and overvoltage level separately. Adjustable delay 0-10 s.		Serves for monitoring of power supply voltage for appliance sensitive with respect to power supply tolerances, device protection against undervoltage / overvoltage. It has independent output relay for each voltage level.		Serves for monitoring of power supply voltage for appliance sensitive with respect to power supply tolerances, device protection against undervoltage / overvoltage. It monitors undervoltage and overvoltage level separately. Adjustable delay 0-10 s.		Serves for monitoring of power supply voltage for appliance sensitive with respect to power supply tolerances, device protection against undervoltage / overvoltage. With its range, it is predestined for monitoring of battery circuits.		Functions: <u>HRN-41</u> : "HYSTERESIS"; <u>HRN-42</u> : "WINDOW"; "MEMORY"-function- for return from error into normal status, it is necessary to press "RESET" pushbutton. Galvanically separated power supply.	

RELAY FOR SEQUENCE AND PHASE OUTAGE MONITORING VOLTAGE RELAY FOR OVERVOLTAGE / UNDERVOLTAGE MONITORING VOLTAGE RELAY FOR OVERVOLTAGE / UNDERVOLTAGE MONITORING RELAY FOR SEQUENCE AND PHASE OUTAGE MONITORING RELAY FOR COMPLETE MONITORING OF 3-PHASE NETWORKS



Technical parameters	HRN-55	HRN-55N	HRN-57	HRN-57N	HRN-54	HRN-54N	HRN-56, 1 M	HRN-56, 3 M	HRN-43	HRN-43N
Number of contacts	1x switch. (AgNi)		1x switch. (AgNi)		1x switch. (AgNi)		1x switch. (AgNi)		2x switch. (AgNi)	
Rated current	8 A		8 A		8 A		8 A		16 A	
Circuits secure	3 фазовых		3 фазовых		3 фазовых		3 фазовых		3 фазовых	
Umax/ Umin:	125% Un / 75% Un		105-125 % Un / 75-95% Un		105 - 125% Un / 75-95%		-		35-99% Umax	
Power supply	с контролируемого		с контролируемого		с контролируемого		с контролируемого		AC 230 V, AC 400 V, 24 V AC/DC	
	<u>HRN-55</u> : Supplied from all phases, i.e. relay function is retained even one phase outage. <u>HRN-55N</u> : L1-N supplying, i.e. the relay monitors also neutral wire breaking.		Serves for monitoring of voltage in switchboard, protection of devices and equipment. Possibility of setting of top and bottom voltage limits at which the output relay contact opens. Umax 105-125% Un. Umin 75-95% Un.		Serves for monitoring of voltage, sequence and phase outage in switchboard, protection of devices and equipment. It is possible to set the top and bottom voltage limits at which the output relay contact opens. Delay of 0.1-10 s.		Relay monitors sequence and outage of phases in circuits: 3x120V - 1M 3x208V - 1M 3x240V - 1M 3x400V - 1M 3x480V - 3M 3x575V - 3M		Relay monitors and controls in 3-phase networks: - voltage in two levels (overvoltage and under voltage) - phase asymmetry - phase sequence - phase outage	

MONITORING CURRENT RELAYS

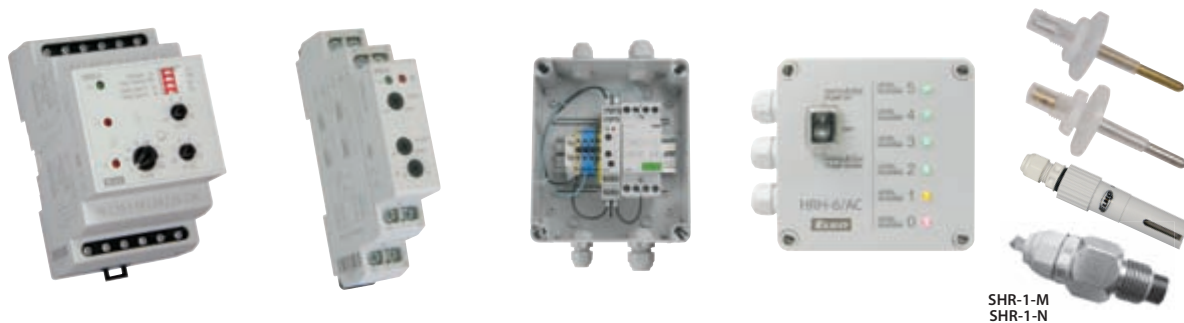
MONITORING CURRENT RELAY, (... DO 20 A)	MONITORING CURRENT RELAY, (0,5-25A)	MONITORING CURRENT RELAY, AC/DC	THREE-PHASE RELAY	CURRENT TRANSFORMERS
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Technical parameters	PRI-32	PRI-51	PRI-52	PRI-41	PRI-42	PRI-53/1	PRI-53/5	SR	
Number of contacts	1x switch. (AgNi)	1x switch. (AgNi)		1x switch. (AgNi)		2x switch. (AgNi) gilded		-	
Rated current	8 A	8 A		16 A		0 - 5 A		0 - 5 A	
Circuit monitoring	1 phases	1 phases		1 phase		3 phases		1 phase	
Monitored ranges	1-20 A	0,1 - 16 A	0,5-25A	4-16 A, 1.25 - 5A, 0.4 - 1.6 A		диапазон настройки 40 - 120 %In		50 - 600 A	
Power supply	AC 24-240 V, DC 24 V		AC 24-240V, DC 24V AC 230 V	AC 230 или AC/DC 24 V		-		-	
	<p><u>PRI-32</u>: monitoring relay is used to monitor current level in single-phase AC circuits. The product includes also current transformer; if a conductor is put in it, the transformer detects the size of passing current.</p>		<p><u>PRI-51</u>: monitoring relay is used to monitor current level in single-phase AC circuits. 5 ranges : AC 0.1-1A, AC 0.2-2A, AC 0.5-5A, AC 0.8-8A, AC 1.6-16A</p>		<p>Functions: <u>PRI-41</u>: "WINDOW". <u>PRI-42</u>: "HYSTERESIS". The relay is designated for monitoring of DC and AC single-phase currents in 3 ranges.</p>		<p>24-240 V AC/DC power supply galvanically separated from the circuit of the monitored current Adjustable function: - UNDER - monitors the drop in the strength of current below the preset value I - OVER - exceeding the preset value I</p>		<p>Designated as a complement to monitoring current relays of PRI line, i.e. in order to increase max.monitored current. Primary current: 50, 100, 150, 200, 250, 300, 400, 600 A.</p>

LEVEL SWITCHES

LEVEL SWITCH	LEVEL SWITCH	LEVEL COMPLETE UNIT	MULTI-GRADE LEVEL SWITCH	LEVEL SENSORS
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Technical parameters	HRH-1	HRH-5	HRH-4	HRH-6/DC	HRH-6/AC	SHR	SHR 2	SHR 3	
Number of functions	3	2	2	2		<p>SHR-1-probe for guarding flooding. SHR-2-is used to detect levels as in wells, boreholes, tanks SHR-3-for use in harsh and industrial environments.</p>			
Number of contacts	2x switch. (AgNi)	1x switch. (AgNi)	4x switches (AgNi)		1x switches (AgNi)				
Rated current	16A	8A	25A		10A				
Sensitivity	5 - 100 kΩ	5 - 100 kΩ	5 - 100 kΩ		10 - 150 kΩ				
Power supply	AC 110 V или 230 V или 400 V		AC 230 V или AC/DC 24 V		DC 12-24 V или AC 230 V				
	<p>Level switch with single-status, two-status monitoring. 2 independent level switches with single-status monitoring. It is possible to select the following functions with DIP switch: replenishing, pumping out, tank level monitoring.</p>		<p>Relay is designated for monitoring of conductive liquids level with possibility of function selection : replenishing or pumping out. The following configurations can be set: single-level or two-level switch.</p>		<p>It is a complete unit consisting of HRH-5 level relay and VS425 contactor. Selection of replenishing or pumping out function. Set has IP55 protection.</p>		<p>Device monitors 5 levels by using six sensors (one sensor is common). Transparent indication of level high with six LEDs on device's panel.</p>		<p>Accessories for level switches: SHR-1-M brass sensor SHR-1-N stainless steel sensor SHR-2 stainless steel sensor in PVC housing. SHR-3 stainless steel sensor</p>

КОНТРОЛЬ 3-ф. цепей		COS		ЧАСТОТЫ		ТЕРМОПРИВОД	
OPTICAL SIGNALIZATION FOR 3-PHASE NETWORK		RELAYS FOR MONITORING OF COS POWER FACTOR		FREQUENCY MONITORING RELAY		ENERGY-SAVING DIGITAL RADIATOR THERMOSTAT	
NEWS!						NEWS!	
Technical parameters	MPS-1	COS-1	HRF-10	ATV-1			
Number of contacts	-	2x switch. (AgNi)	1x switch. (AgNi) gilded	This energy-saving digital radiator thermostat is a programmable regulation device for various heaters, but mainly radiators. Intervals of heating and energy-saving operation can be set using a freely adjustable time program.			
Rated current (supply)	-	16 A	16 A	8 individually programmable switching times per day:			
Circuit monitoring	used for optical signaling of the voltage	1 phase, 3 phases	-	- 4 heating intervals			
Monitored ranges	level in three phases	cos-φ 0,1 - 0,99	настр. 80 - 120 %Fn	- 4 energy-saving intervals			
Power supply	AC 3x400/230V, 50/60Hz	AC 230V / AC 400V / AC/DC 24V	161 - 346V	Functions:			
	Each phase has LED signaling broken down by color into voltage levels: - voltage in tolerance of +/-15% - green - overvoltage - red - undervoltage - yellow - voltage < 50V - LED not illuminated	Relay monitors phase off-set between current and voltage in 3-phase or also 1-phase networks - it evaluates cos-φ. The relay is predestined for motor overloading/relief monitoring.	The relay is designed for monitoring frequency of AC voltage, e.g. in photovoltaic power stations, generators. Two adjustable levels of frequency (Fmin, Fmax) in the range of 80 - 120% Fn	Manual mode - measuring and checking a manually set temperature Automatic mode - control between two temperatures based on a set time program: - comfort temperature (factory setting 21°C) - energy-saving temperature (factory setting 16°C) Intervals of heating and energy-saving operation can be set using a freely adjustable time program.			

MODULAR THERMOSTATS											
SIMPLE THERMOSTATS		SIMPLE THERMOSTATS		DOUBLE THERMOSTAT		MULTIFUNCTION THERMOSTAT		MOTOR WINDING TEMPERATURE MONITORING			
						INNOVATION!					
Technical parameters	TER-3 A, B, C, D, G, H	TER-3E	TER-3F	TER-4	TER-9	TER-7					
Monitored ranges	-30..+10, 0.40, 30..70, 0.60, -15+45°C	0..+60°C		-40+110°C	-40.. +110°C		-				
Sensor / Type	external, NTC, крпме TER-3G(PT100)	external, NTC	in-built	external, NTC	external, NTC		external, PTC				
Number of contacts	1x Switches (AgSnO ₂)	1x Switches (AgSnO ₂)		2x switch. (AgNi)	2 x switch.		2x switch. (AgNi)				
Rated current	16A/AC1 10A/24 V DC	16A/AC1 10A/24 V DC		16A/AC1	8A/AC1		8A/AC1				
Power supply	AC/DC 24-240V	AC/DC 24 - 240 V		AC 230, AC/DC 24 V	AC 230, AC/DC 24 V		AC/DC 24 V - 240 V				
	Simple thermostat for temperature monitoring and control within range -30+70°C. Possibility of "heating"/"cooling" function setting (realized with DIP switch). Adjustable hysteresis (sensitivity).	Simple thermostat for temperature monitoring and control within range 0+60°C. TER-3E: - selection from external temperature sensors. TER-3F: - sensor is a part of device.		Double thermostat for temperature monitoring and control within wide range -4.+110°C. 2 temperature outputs for NTC sensor. 2 independent switching output contacts 16A.	Digital thermostat with 6 functions and in-built time switch. 2 thermostats in 1, 2 temperature inputs, 2 outputs. Functions: 2 independent thermostats, dependent thermostat, differential thermostat. Innovation: Plug-in model for replacing backup battery.		It monitors motor winding temperature. PTC sensor in-built in motor winding is used as a sensing element. Error condition RESET: a) with pushbutton on front panel b) with external contact.				

ROOM AND EXTERNAL THERMOSTATS

	ANALOG ROOM THERMOSTATS		DIGITAL ROOM THERMOSTATS		TWO-LEVEL THERMOSTAT IP65 ONE-LEVEL THERMOSTAT IP65			EXTERNAL THERMOSTAT IP65	THERMO SENSORS FOR THERMOSTATS
	ATR	ATF, ATC	DTR	DTF, DTC	TEV-1	TEV-2	TEV-3	TEV-4	TC, TZ, PT
Technical parameters	THERMO AT (ATR, ATF, ATC)		THERMO DT (DTR, DTF, DTC)						
Температура/	+5..+40°C	+5..+50°C	+5..+50°C		2x-20+20°C -20..+20°C +5..+35°C			-30+60°C	TC: Types of thermo sensors for range 0..+70°C. TZ: Types of thermo sensors for range -40..+125°C. PT100: Types of thermo sensors for range -30..+200°C.
Сенсор / Тип	internal external / internal		in- DTF-ex./DTC-in. and external		internal			internal	
Number of contacts	1 x switch.(AgNi)		1 x switch.(AgNi)		1 x switch.(AgNi)			1 x switches	
Rated current:	16A/250 V 4000VA by AC1		16A/250 V 4000VA by AC1		16 A			12 A	
Power supply	AC 230 V		AC 230 V		230 V AC			230 V AC	
	ATR - room thermostat with temperature range +5..+40°C. ATF - floor thermostat with temperature range +5..+50°C. ATC - combined thermostat with room and floor sensor.		DTR - room thermostat. DTF - floor thermostat. DTC - combined thermostat with room and floor sensors. DTF, DTC - external sensor.		TEV-1: Thermostat with "WINDOW" function; i.e. output is closed if is measured temperature between set temperature values. TEV-2, TEV-3: thermostat with possibility of temperature control in adjustable range.			Simple thermostat for monitoring and control of temperature in outdoor spaces and demanding environments. Two functions that can be set with a link: heating and cooling.	
									Temperature sensors are produced from thermistor NTC. TC - cable CYSY is used, 2Dx0,5mm, PVC insulation TZ - cable with silicon insulation TC, TZ, PT - offered length is 3,6 or 12m. PT100 - shielded cable with silicon insulation 2x0,22 mm2

HYGROSTATS

NEW PRODUCT PACKAGING

	HYGROTERMOSTAT		HYGROSTAT		
	RHT-1	RHV-1	1M	3M	8M
Technical parameters					
Function	hygrothermostat	it humidifies, dehumidifies	After years of practical packing of our products into all-white boxes, we have now introduced printed boxes. Now you can find our products easier on store shelves from amongst other goods. We believe that you will like the new print as much as we do and that you will embrace it as an indication of the diversity of our assortment. The new printed boxes contain single-module products, three-module ones...		
Humidity range	50 - 90%	0 - 90%			
Number of contacts	1x switches(AgSnO ₂)	1x switches(AgSnO ₂)			
Rated current	16A/AC1, 10A/24V DC	12A / AC1			
Power supply	24 - 230V AC/DC (AC 50-60 Hz)	AC 230 V / 50..60 Hz			
	Hygro-thermostat for temperature monitoring and control - range 0..+60°C and relative humidity - range 50..90%. Sensor is part of device - designated for measuring in switchboard.	Simple hygrostat for monitoring and control of relative humidity. Outdoor version with IP65 protection, box for wall mounting, removable lid without screws.			

























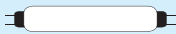
LED LIGHT SOURCES

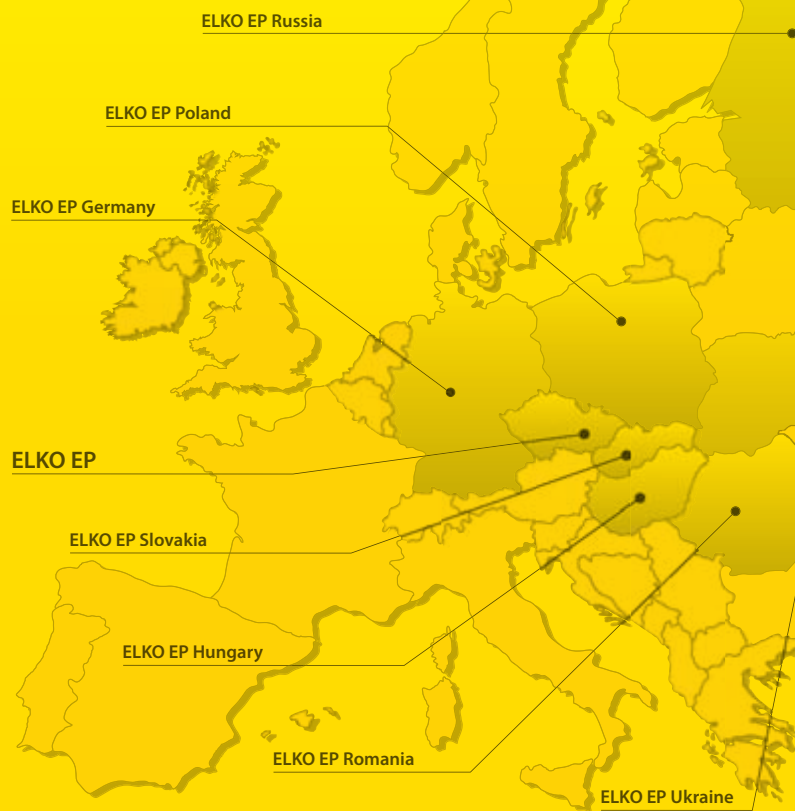
	LED LAMP	LED LAMP	LED CANDLE	LED LAMP	LED POINT LAMP
Technical parameters	DLB-E27-806-2K7	LB-E27-470-2K7	LC-E14-250-3K	LMB-E14-250-3K	LSL-GU5.3-280-3K
Power [W]	10	8	4	4	5
Base	E27	E27	E14	E14	GU5.3
Luminous flux [lm]	806	470	250	250	280
Light temperature [K]	2700	2700	3000	3000	3000
Dimmable	YES	NO	NO	NO	NO
	Bulb whose light output makes it a reliable replacement to the standard 60W bulb. Whether you install it to shine down from above or in any other position, it always provides sufficient light. Dimmable with an ELKO EP dimmer.	This lamp fully replaces the classic 40W bulb. Its refined source that produces less heat loss enabled the lamp body to be designed without massive ribbing in a neat, timeless design	Energy-saving lamps can be found in a wide range of shapes and outputs. You are no longer limited to just the classic shape. Rather, you can simply chose according to its purpose and type of light. Candle-shaped lamps are ideal ex. for elaborately designed chandeliers or lights.	The lamp provides pleasant, natural light, which any household can appreciate. Small bulb for use in chandeliers, lamps or as a point lamp for lights with an E14 base	Point lighting has lately become very popular especially for decorative interior lighting. You can find replacements to halogen lamps in our assortment. There you will find a substitute for 12V halogen lamps.

LED LIGHT SOURCES

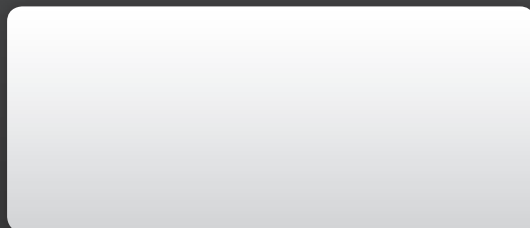
	LED POINT LAMP	LED TUBE	LED TUBE	LED PANEL	LED STRIPS
Technical parameters	LSL-GU10-280-3K	LT-G13-800-6K	LT-G13-1500-6K	LP-6060-3200-5K	LP-12060-6000-57K
Power [W]	5	8	18	45	83
Base	GU10	G13	G13	-	-
Luminous flux [lm]	280	800	1500	3200	6000
Light temperature [K]	3000	6000	6000	5700	-
Dimmable	NO	NO	NO	NO	NO
	In these LED point lamps, you find an absolute replacement to ordinary point lamps using a GU10 base. Thanks to its novel design, it can be used as a separate point light using a GU10 base, but also with spotlights.	Replacement to classic fluorescent tubes. When installing tubes, it is necessary to completely remove the choke coil and starter from the classic connection to further reduce power consumption. Dimensions: 600 x 25.4 mm (w x h)	Replacement to classic fluorescent tubes. When installing tubes, it is necessary to completely remove the choke coil and starter from the classic connection to further reduce power consumption Dimensions: 1.200 x 25.4 mm (w x h)	The panel sizes are designed for inserting in cassette ceilings. However, they can be installed many different ways - directly under the ceiling, suspended on cables under the ceiling, on the wall, in any position. You fantasy knows no boundaries.	The LED strip is a modern method of illuminating any space, either in homes or commercial spaces. Thanks to their flexibility, they can be easily bent and trimmed to modify them to fit in any space. Many of them are even self-adhesive, making their installation that much easier. It can be simply stuck to any surface (wall, wood, glass, plastic or metal). Just trim the LED strip to the required length and stick it to its designated place. It is often used for example in the kitchen, where it sticks to the lower part of the upper housings in place of outdated fluorescent tubes

WE CAN DIM ANYTHING!

SERIES PRODUCT	PRODUCT	AUTOMATIC LOAD DETECTION	EAN CODE	R 	L 	C 
						
ELECTRONIC DEVICES	 DIM-2 – Staircase switch with dimming, gradual brightness increase/decrease, 500 VA	✗	8595188112475	✓	✓	✗
	 DIM-5 – Dimmer - short press ON/OFF, pressing and holding dims, 500 VA	✗	8595188115612	✓	✓	✗
	 DIM-14 – Like DIM-5, also suitable for loads L. Dims loads R, L, C)	✓	8595188135955	✓	✓	✓
	 DIM-15 – Dimmer for LED lamps and dimmable efficient fluorescent lamps, potentiometer brightness setting	✗	8595188140690	✗	✗	✗
	 DIM-6 – Expandable power module for increasing output of connected load to DIM-6 by 1kVA	✗	8595188139106	✓	✓	✓
	 SMR-S – Like DIM-5, pushbutton control, for mounting into KU68, dims by pressing and holding button, 300W	✗	8595188123518	✓	✓	✗
	 SMR-U – Like DIM-14, pushbutton control, for mounting into KU68, dims by pressing and holding button, 500W	✓	8595188130738	✓	✓	✓
	 SMR-M – Like DIM-15, pushbutton control, for mounting into KU68, LED dimming and dimmable efficient fluorescent lamps	✗	8595188143776	✗	✗	✗
	 LIC-1 – Dimmer maintaining set light intensity in Lx, including SKS photo-sensor	✗	8595188144933	✓	✓	✓
WIRELESS SOLUTION	 RFDA-11B – Dimming actuator basic program light scene, OFF function	✓	8595188136846	✓	✓	✓
	 RFDA-71B – Dimming actuator - 7 programs, 4 lighting scenes, sunset and sunrise simulation, ON/OFF	✓	8595188136273	✓	✓	✓
	 RFDEL-71B – Dimming actuator - 7 programmable functions, 6 light functions, ON/OFF function	✗	8595188145121	✓	✓	✓
	 RFDAC-71B – Analog actuator - 7 programs, 6 light functions, ON/OFF function	✗	8595188142809	1 x Output 0/1-10 V 		
	 RFDA-73/RGB – Dimming actuator for RGB dimming sources	✗	8595188146814		✗	
BUS SOLUTION	 LM2-11B – Dimming single-channel actuator (250W), 1 x 230VAC IN, Thermo input	✓	8595188131131	✓	✓	✓
	 DA2-22M_v2 – Dimming double-channel actuator 2 channels (500W/channel), 2 x 230VAC IN, Thermo input	✓	8595188131353	✓	✓	✓
	 LCB2-02M – Dimming double-channel actuator 2 x relays, 2 x 1 - 10V	✗	8595188131148	2 x Output 1-10 V 		



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